

OTTAWA NATIONAL WILDLIFE REFUGE  
CEDAR POINT NATIONAL WILDLIFE REFUGE  
WEST SISTER ISLAND NATIONAL WILDLIFE REFUGE  
NAVARRE TRACT                      DARBY MARSH  
OAK HARBOR, OHIO

1970 - NARRATIVE

N A R R A T I V E   R E P O R T

**1 2 7 0**

UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

1 OTTAWA NATIONAL WILDLIFE REFUGE  
2 CEDAR POINT NATIONAL WILDLIFE REFUGE  
3 WEST SISTER ISLAND NATIONAL WILDLIFE REFUGE  
NAVARRE TRACT                      DARBY MARSH  
OAK HARBOR, OHIO

REGULAR   PERSONNEL  
=====

|                               |                      |
|-------------------------------|----------------------|
| Alfred O. Manke . . . . .     | Refuge Manager       |
| James M. Carroll, Jr. . . . . | Asst. Refuge Manager |
|                               | (E.O.D. 1-11-70)     |
| Julie E. Pepas . . . . .      | Clerk-typist         |
| Alson J. Radsick . . . . .    | Maintenanceman       |
| Nelson C. Dornbusch . . . . . | Maintenanceman       |
| Wood Holbrook . . . . .       | Maintenanceman       |

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# OTTAWA

## NATIONAL WILDLIFE REFUGE

### OHIO

A vast 300,000-acre marsh once bordered western Lake Erie. This unbroken wetland stretched over 75 miles, but today only small and widely scattered segments remain, totaling about a tenth of the original area. This great change took place in a little over 100 years. Some parts of the marsh were drained, and others were filled in, to meet the needs and whims of mankind. Drainage and filling have not been stilled—they are being accelerated.

Ottawa National Wildlife Refuge was established in 1961 to save and improve a portion of the marsh for waterfowl. Ultimately, Ottawa Refuge will comprise 4,807 acres under the administration of the Bureau of Sport Fisheries and Wildlife. The nearby 480-acre Darby Marsh is a part of Ottawa Refuge, and the refuge manages another waterfowl area in the vicinity, the 533-acre Navarre Marsh, under an agreement with the owner. Also operated from Ottawa is Cedar Point National Wildlife Refuge, whose "historical point" demarks Maumee Bay from Lake Erie. This valuable 2,250-acre marsh lies only 6 miles west of Ottawa.

Ottawa Refuge is a pivotal point for waterfowl. Here parts of the Mississippi and Atlantic Flyway populations separate on their southward fall migrations and rejoin in their northward spring flights. Mallards from the Mississippi Flyway and black ducks from the Atlantic Flyway gather here in equal numbers. Of the Canada geese that take respite at Ottawa, some join a Mississippi River flock in Illinois, while

others winter on TVA lakes in the Southeast. A few winter in the Carolinas along the Atlantic coast. Whistling swans coming north from Chesapeake Bay stop and regroup on the refuge, affording a unique spectacle before they resume their long trek to the Arctic.

Nature study and photography opportunities are increasing with the upward trend of waterfowl and other wildlife populations on the refuge. The most spectacular populations of birds are seen during migration periods. Some remain to nest, among them waterfowl, bald eagles, mourning doves, and gulls. Birdwatchers observe many kinds of hawks, shorebirds, and warblers in migration. During the summer their attention is focused on great blue herons, black-crowned night herons, and common egrets, which are among the most interesting of more than 250 species listed for the refuge. Resident mammals include cottontails, muskrats, squirrels, woodchucks, raccoons, foxes, and an occasional whitetail deer.

Development and management of Ottawa and Cedar Point are designed to enhance, rather than change, the marsh habitat for wildlife through dikes and water control systems. A visitor center and tour route are planned for public use. The Ottawa Job Corps Conservation Center was established as part of the development work plan. For additional information and wildlife speakers, contact Ottawa National Wildlife Refuge Manager, Rural Route 3, Oak Harbor, Ohio 43449.

**UNITED STATES DEPARTMENT OF THE INTERIOR**

**FISH AND WILDLIFE SERVICE**

**Bureau of Sport Fisheries and Wildlife**

Refuge Leaflet 540 • March 1968








Toledo  
13 miles

# OTTAWA NATIONAL WILDLIFE REFUGE

LAKE

ERIE

STATE OF OHIO  
METZGER MARSH

-  WATER
-  MARSH
-  AGRICULTURE
-  TIMBER
-  DIKES

2

Pintail Marsh

Willow Point

Redhead  
Flat

Widgeon Slough

Swandive

Mallard Bay

HDQTS.

Woodies Roost

2

590

MICH.  
OHIO

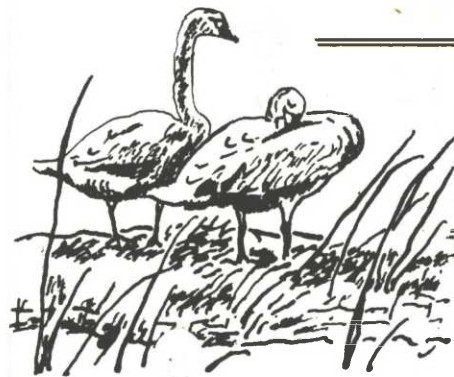
TOLEDO

CEDAR POINT  
N.W.R.

OTTAWA  
N.W.R.

VICINITY MAP

STATE OF OHIO  
CRANE CREEK WILDLIFE  
EXP. STATION  
& Beach Park



Bono

Perrysburg

Oak Harbor

25

579

590

19

# *West Sister Island*

## *Wilderness Proposal*

West Sister Island  
National Wildlife Refuge  
Oak Harbor, Ohio



UNITED STATES DEPARTMENT OF INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

## PREFACE

The Wilderness Act of September 3, 1964 (Public Law 88-577) provided the authority and indicated the procedure by which National Wildlife Refuges, meeting the necessary requirements, are to be considered for inclusion in the National Wilderness Preservation System. This law directed the review of every roadless area of 5,000 contiguous acres or more and every roadless island within the National Wildlife Refuge System.

The National Wildlife Refuge System embraces a nationwide network of lands and waters devoted to the management and protection of wildlife and wildlands for the benefit of the public.

Sections 4(a) and 4(b) of the Wilderness Act provide that: (1) the Act is to be within and supplemental to the purposes for which National Wildlife Refuges are established; (2) Wilderness areas shall be administered so as to preserve their wilderness character and shall be devoted to the public purposes of recreational, scenic, scientific, educational, conservation, and historical use, insofar as primary refuge objectives permit.

## WEST

## SISTER

## ISLAND

### LOCATION

The West Sister Wilderness Proposal comprises the entire West Sister National Wildlife Refuge. This 85 acre island lies 9 miles off the south shore of Lake

Erie. It is situated approximately 15 miles east of Toledo in Lucas County, Ohio.

### THE PAST

Though Indians and early explorers and travelers are presumed to have used the island in case of storms and an occasional resting spot, its place in history was earned during the war of 1812. Commodore Perry's famous dispatch after the Battle of Lake Erie was datelined — off West Sister Island. It read: "We have met the enemy and they are ours."

*Stony cliffs and hackberry trees*



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*Stony cliffs and hackberry trees*



During the early years of sailing, a lighthouse and tower were erected on the west point of the island where a lighthouse keeper lived until the light was automated in 1937.

In 1938 the island was set aside by Executive Order as a National Wildlife Refuge for migratory birds and other wildlife. It is administered by the refuge manager at the Ottawa National Wildlife Refuge, Oak Harbor, Ohio 43349.

#### DESCRIPTION

The mid-lake location of the island gives it a climate exceptionally free from the great daily temperature fluctuations of the mainland. The average length of the growing season is 192 days with maximum summer temperatures in the low 90's and a minimum winter temperature of -15.

The island appears flat-topped though it actually rises 35 feet above the lake sloping gradually toward the N.E.

The basic rock is Tymochtee Shale which is covered by 3 feet of Randolph fine sandy loam. Most of the island is surrounded by stony cliffs 15 to 20 feet high but the side facing the mainland is a low, sloping, gravelly beach.

Geologically, the islands in Lake Erie have been formed from solid limestone rock and shaped by glacial action according to the Franz Theodore Stone Laboratory, Ohio State University.



Gull Point

The Geological Survey reports no mineral deposits of significance on the island. Over 75% of the surface of the island is covered with 40 to 50 foot tall hackberry forest in an almost pure stand. The forest floor supports a rich growth of many interesting plants.

A few tiny wooded ponds in the interior of the island are surrounded by ground cover of jack-in-the-pulpit and trout lilies. The remaining few acres are open grass lands fringed with chokecherry and wild plum.

The lighthouse tower and the surrounding 3 acres comprising the westward most portion of the island remain under the jurisdiction of the U.S. Coast Guard. In response to this Bureau's invitation to participate in the Wilderness Program, the Coast Guard is permitting their portion of the island to be included in the Wilderness Proposal while retaining their rights to administer their portion of the island for navigational aids.



Landing Beach

#### WILDLIFE

The most common wildlife using the island are great blue herons, black crowned night herons and common egrets. These birds have over 1100 active nests perched in the tops of the hackberry trees on the north half of the island.

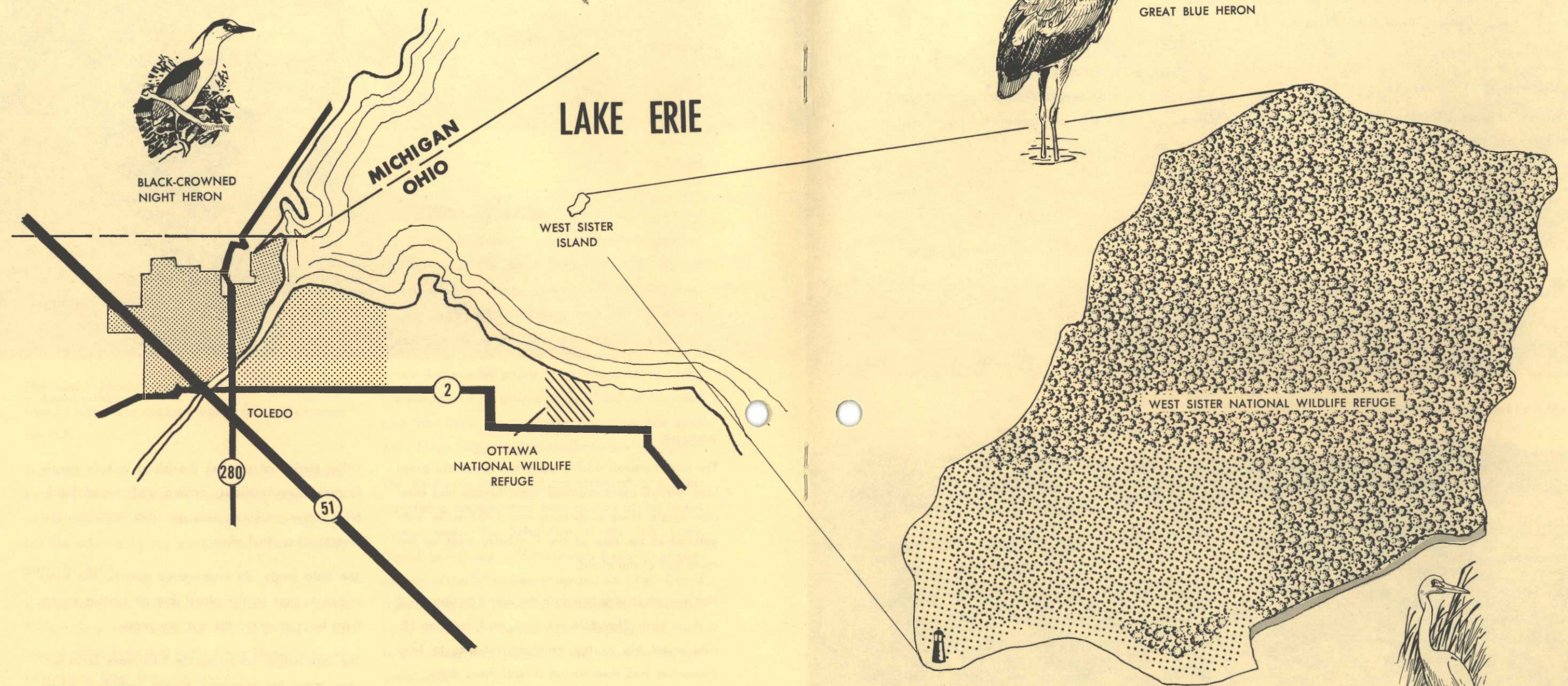
Not enough food is found on the island to sustain all of these birds. Therefore, the birds must make an 18-mile round trip to the mainland marshes to feed themselves and their young several times daily.

Some of the egrets banded as young on this island have been reported from Jamaica, Cuba and other islands in the West Indies.

Other birds that nest on the island include purple martins, barn swallows, starling, red-winged black-birds, crows, catbirds, song sparrows, warblers, and several other small birds.

The bald eagle, an endangered species, has been known to nest on the island, but no nesting eagles have been observed the last few years.

The rock ledges bordering the lake make ideal sunning spots for numerous snakes including garter snakes, water snakes, black snakes and blue racers. The snakes may serve as a deterrent to the casual visitor.



## WEST SISTER ISLAND WILDERNESS PROPOSAL

The vegetation of the islands in Lake Erie has been under study by Ohio State University for many years to survey and document the species of plants on each island. Though the larger islands support several hundred kinds of plants, West Sister Island has 67 species.

#### DEVELOPMENT

There are no facilities for the public on the island nor are there any planned. The old lighthouse is now in ruins with only the lighthouse tower remaining with the automatic light on top.

The colony nesting species such as herons and egrets require solitude during the nesting season. It is mandatory that the birds not be disturbed during that period.

#### MANAGEMENT

The island, in its present state, provides optimum conditions for nesting birds. Protection against human disturbance is the principal management proposed for this area.

*Remnant of clearing near lighthouse.*



*Hackberry forest and trout lilies.*

#### RELATIONSHIP TO SURROUNDING AREA

The small size of this island and its lack of spectacular physical features offer little to attract the casual visitor.

Over the years, most of the recorded use of the island was the result of shipwrecks when people were sometimes stranded for days. To the present day, pleasure craft look to this island as a haven of safety against sudden storms.

It does not seem likely that any significant change would occur in the local economy as a result of this island being added to the Wilderness System.

Numerous wildlife management areas, small natural areas and memorials are present in the vicinity and complement this proposal.

#### INSPECTION

Anyone concerned about this proposal may visit the island by contacting the Refuge Manager, Ottawa National Wildlife Refuge, Oak Harbor, Ohio 43449.

Additional information may be obtained from the Refuge Manager or the Regional Director, Bureau of Sport Fisheries and Wildlife, Twin Cities, Minn. 55111.

# SUMMARY

This proposal presents a unique piece of habitat with its interesting wildlife inhabitants and will add to the variety of habitat types which the Wilderness System endeavors to save for posterity.

It is recommended that this proposal be included in the Wilderness System.



*Black-crowned night herons guard their nests.*



A lighthouse silhouette of the past,  
A hackberry tree of the present,  
And horizons of the future,  
Merge in this portion of wilderness.

UNITED STATES DEPARTMENT OF INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE



As the Nation's principal conservation agency, the Department of the Interior has basic responsibilities for water, fish, wildlife, mineral, land, park, and recreational resources. Indian and Territorial affairs are other major concerns of the America's "Department of Natural Resources".

The Department works to assure the wisest choice in managing all our resources so each will make its full contribution to a better United States — now and in the future.



UNITED STATES DEPARTMENT OF INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

|                         | S | F | W |
|-------------------------|---|---|---|
| Pine Warbler            | o | r | x |
| Prairie Warbler         |   | o |   |
| Palm Warbler            | c | c |   |
| • Ovenbird              | c | c |   |
| Northern Waterthrush    | c |   |   |
| Louisiana Waterthrush   |   | x | x |
| • Kentucky Warbler      | r | r |   |
| Connecticut Warbler     | r | r |   |
| Mourning Warbler        | u | u |   |
| • Yellowthroat          | c | c | r |
| • Yellow-breasted Chat  | u | u | u |
| • Hooded Warbler        | r | r | r |
| Wilson's Warbler        | c | c |   |
| Canada Warbler          | c | c |   |
| • American Redstart     | c | r | c |
| • House Sparrow         | a | a | a |
| • Bobolink              | u | u | u |
| • Eastern Meadowlark    | c | c | u |
| • Western Meadowlark    | u | u | u |
| Yellow-headed Blackbird | r |   | x |
| • Red-winged Blackbird  | a | a | a |
| • Orchard Oriole        | r | r | r |
| • Baltimore Oriole      | u |   | x |
| Rusty Blackbird         |   | c | u |
| Brewer's Blackbird      | c |   | r |
| • Common Grackle        | a |   | u |
| • Brown-headed Cowbird  |   |   | u |
| • Scarlet Tanager       |   |   |   |
| • Summer Tanager        | r |   |   |
| • Cardinal              | c | c | c |

|                          | S | F | W |
|--------------------------|---|---|---|
| • Rose-breasted Grosbeak | c | r | c |
| • Indigo Bunting         | c | c | c |
| • Dickcissel             |   | u | u |
| Evening Grosbeak         | o |   | o |
| Purple Finch             | u | x | u |
| Hoary Redpoll            |   |   | x |
| Common Redpoll           |   |   | o |
| Pine Siskin              |   |   | u |
| • American Goldfinch     | c | c | c |
| • Rufous-sided Towhee    | c | c | u |
| • Savannah Sparrow       | c | c | x |
| • Grasshopper Sparrow    | o | o | o |
| Le Conte's Sparrow       | x |   | r |
| Henslow's Sparrow        | x | x |   |
| Sharp-tailed Sparrow     | r | r |   |
| • Vesper Sparrow         | u | u | x |
| Slate-colored Junco      |   |   | c |
| Oregon Junco             | o |   | o |
| Tree Sparrow             | c |   | c |
| • Chipping Sparrow       | u | u | u |
| • Field Sparrow          | u | u | r |
| Harris' Sparrow          | x |   | x |
| White-crowned Sparrow    | c | x | c |
| White-throated Sparrow   | c | x | c |
| Fox Sparrow              | c |   | r |
| Lincoln's Sparrow        | u |   | x |
| • Swamp Sparrow          | u | r | o |
| • Song Sparrow           | c | c | u |
| Lapland Longspur         | u | u | u |
| Snow Bunting             | c |   | c |

The following 25 species have been seen in the vicinity of the refuges, but not on them:

Red-throated Loon  
Red-necked Grebe  
Sooty Shearwater  
Gannet  
Louisiana Heron  
Wood Ibis  
Flamingo  
Barrow's Goldeneye  
Harlequin Duck  
Common Eider  
Purple Sandpiper  
Ruff  
Long-tailed Jaeger

Laughing Gull  
Little Gull  
Pileated Woodpecker  
Boreal Chickadee  
Kirtland's Warbler  
Black-headed Grosbeak  
Pine Grosbeak  
Red Crossbill  
White-winged Crossbill  
Lark Sparrow  
Bachman's Sparrow  
Clay-colored Sparrow

Refuge Manager, Route 3, Box 274, Oak Harbor, Ohio 43449

UNITED STATES DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

GPO 904-141

Ohio



## BIRDS OF THE OTTAWA, CEDAR POINT, AND WEST SISTER ISLAND NATIONAL WILDLIFE REFUGES

Suitable habitat is essential to the survival of all creatures. As species differ from one another, so do their habitat needs. Our National Wildlife Refuge System, composed of more than 330 refuges and 29 million acres, provides these different ecological niches. Ottawa and its satellite refuges bordering Lake Erie in Ohio contribute richly to such niches. Their 8,000 acres of marshes, meadows, and farm crops combine to support a varied and abundant wildlife community. Large flocks of migrating waterfowl may be seen in March and April, and again in October and November. The spring migration of whistling swans is particularly notable.

This list of 288 birds observed on these refuges has been compiled for your use and information. An additional 25 species which have been seen in the vicinity but not on the refuges are appended.

Symbols used in this list are defined as follows:

| Season            |                      |
|-------------------|----------------------|
| S - Spring        | March - May          |
| S - Summer        | June - August        |
| F - Fall          | September - November |
| W - Winter        | December - February  |
| • - nests locally |                      |

|                |   |
|----------------|---|
| a - abundant   | a common species which is very numerous |
| c - common     | certain to be seen in suitable habitat  |
| u - uncommon   | present, but not certain to be seen     |
| o - occasional | seen only a few times during a season   |
| r - rare       | seen at intervals of 2 to 5 years       |
| x - accidental | has been seen only once or twice        |

Refuge Leaflet 249 · December 1970

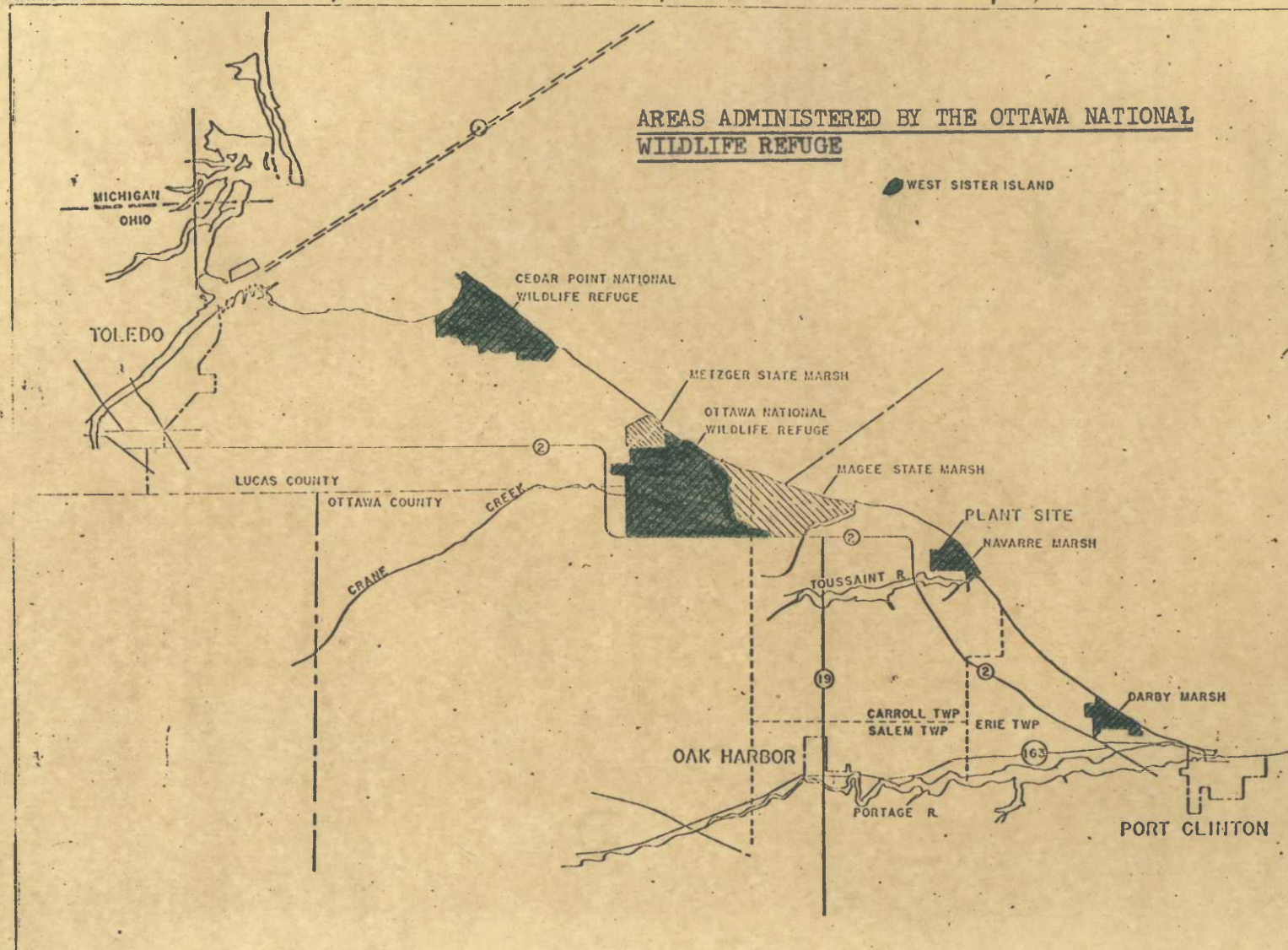
|                             | S | F | W |
|-----------------------------|---|---|---|
| Common Loon                 | o | o | r |
| Horned Grebe                | u | u | o |
| Eared Grebe                 | r | r |   |
| • Pied-billed Grebe         | c | c | r |
| White Pelican               | r | r | r |
| Double-crested Cormorant    | o | o | r |
| • Great Blue Heron          | c | c | u |
| • Green Heron               | c | c | c |
| Little Blue Heron           | r | o | o |
| Cattle Egret                | u | u |   |
| • Common Egret              | c | c | x |
| Snowy Egret                 | x | r | r |
| • Black-crowned Night Heron | c | c | o |
| Yellow-crowned Night Heron  | r |   |   |
| • Least Bittern             | u | u | x |
| • American Bittern          | u | u | r |
| Glossy Ibis                 | o |   |   |
| Mute Swan                   | r | r | r |
| Whistling Swan              | x | x | o |
| • Canada Goose              | a | c | a |
| Brant                       | x | r |   |
| Barnacle Goose              | x | x | x |
| Bar-headed Goose            | x |   | x |
| White-fronted Goose         |   | x | x |
| Snow Goose                  | o | c | u |
| Blue Goose                  | o | c | u |
| Fulvous Tree Duck           |   | x |   |
| • Mallard                   | a | a | a |
| • Black Duck                | a | c | a |
| • Gadwall                   | c | u | c |
| • Pintail                   | a | u | c |
| • Green-winged Teal         | c | u | o |
| • Blue-winged Teal          | c | c | x |
| European Widgeon            | r | c | x |
| • American Widgeon          | a | u | o |
| • Shoveler                  | c | u | c |
| • Wood Duck                 | c | c | a |
| • Redhead                   | c | u | c |
| Ring-necked Duck            | c | x | c |
| Canvasback                  | a | x | a |
| Greater Scaup               | u | u | r |
| • Lesser Scaup              | a | u | u |
| Common Goldeneye            | c | c | c |
| Bufflehead                  | c | c | u |
| Oldsquaw                    | r |   | r |
| King Eider                  |   | x |   |
| White-winged Scoter         | o |   | o |
| Surf Scoter                 | o | o | o |
| Common Scoter               |   | o | r |
| • Ruddy Duck                | a | c | u |
| • Hooded Merganser          | c | c | u |
| Common Merganser            | a | r | a |
| Red-breasted Merganser      | u |   | u |
| • Turkey Vulture            | c | u |   |
| Goshawk                     |   |   | r |
| Sharp-shinned Hawk          | c |   | u |
| • Cooper's Hawk             | u |   | u |

|                         | S | F | W |
|-------------------------|---|---|---|
| • Red-tailed Hawk       | c | c | c |
| • Red-shouldered Hawk   | u | u | o |
| Broad-winged Hawk       | c |   | c |
| Rough-legged Hawk       | u |   | u |
| Golden Eagle            | r | r | r |
| • Bald Eagle            | u | u | u |
| • Marsh Hawk            | u | u | u |
| Osprey                  | u | r | u |
| Gyrfalcon               | x | x | x |
| Peregrine Falcon        | r | r | r |
| Pigeon Hawk             | r | r | r |
| • Sparrow Hawk          | c | c | c |
| • Bobwhite              | u | u | u |
| • Ring-necked Pheasant  | c | c | c |
| Sandhill Crane          | r |   | x |
| • King Rail             | o | o | r |
| • Virginia Rail         | o | o | r |
| • Sora                  | c | u | c |
| Yellow Rail             | x |   | x |
| Black Rail              | x |   | x |
| • Common Gallinule      | c | c | x |
| • American Coot         | a | c | u |
| Semipalmated Plover     | c | x | c |
| • Piping Plover         | r | r |   |
| Wilson's Plover         | x |   |   |
| • Killdeer              | c | c | r |
| American Golden Plover  | c | u | u |
| Black-bellied Plover    | c | u | u |
| Ruddy Turnstone         | c | u | c |
| • American Woodcock     | u |   | u |
| • Common Snipe          | c | c | r |
| Whimbrel                | r | r | r |
| • Upland Plover         | u |   | u |
| • Spotted Sandpiper     | c | c | c |
| Solitary Sandpiper      | c | c | c |
| Willet                  | r | x |   |
| Greater Yellowlegs      | c |   |   |
| Lesser Yellowlegs       | c |   |   |
| Knot                    | o |   |   |
| Pectoral Sandpiper      | c | c | c |
| White-rumped Sandpiper  | r | r | r |
| Baird's Sandpiper       | r | r | x |
| Least Sandpiper         | c | c | c |
| Dunlin                  | a | c | r |
| Short-billed Dowitcher  | c |   | u |
| Long-billed Dowitcher   | u |   | u |
| Stilt Sandpiper         | u |   | u |
| Semipalmated Sandpiper  | a | c | c |
| Western Sandpiper       | r | r | r |
| Buff-breasted Sandpiper | r | r | r |
| Marbled Godwit          | r | r | u |
| Hudsonian Godwit        | x | r | r |
| Sanderling              | o | c | x |
| American Avocet         | r |   |   |
| Red Phalarope           |   |   | x |
| Wilson's Phalarope      | o | o | o |
| Northern Phalarope      | o | o | x |

|                             | S | F | W |
|-----------------------------|---|---|---|
| Parasitic Jaeger            | x | r |   |
| Skua                        |   | x |   |
| Glaucous Gull               | r | x | r |
| Iceland Gull                |   |   | r |
| Great Black-backed Gull     | c | u | c |
| • Herring Gull              | a | c | a |
| • Ring-billed Gull          | a | c | a |
| Franklin's Gull             | x | r | x |
| Bonaparte's Gull            | c | o | a |
| Forster's Tern              | r | o | u |
| • Common Tern               | c | c | x |
| Least Tern                  | x | x |   |
| Caspian Tern                | u | c | c |
| • Black Tern                | c | c | c |
| • Mourning Dove             | c | c | c |
| • Yellow-billed Cuckoo      | u | u | u |
| • Black-billed Cuckoo       | o | o | o |
| Groove-billed Ani           |   | x |   |
| • Barn Owl                  | u | u | u |
| • Screech Owl               | c | c | c |
| • Great Horned Owl          | c | c | c |
| Snowy Owl                   | o | o | o |
| • Barred Owl                | r | r | r |
| • Long-eared Owl            | o | o | o |
| Short-eared Owl             | o | o | o |
| • Saw-whet Owl              | o | x | o |
| Whip-poor-will              | u | r |   |
| • Common Nighthawk          | c | a | c |
| • Chimney Swift             | c | u | a |
| • Ruby-throated Hummingbird | u | u | u |
| • Belted Kingfisher         | c | c | o |
| • Yellow-shafted Flicker    | c | c | u |
| • Red-bellied Woodpecker    | u | u | u |
| • Red-headed Woodpecker     | c | c | u |
| Yellow-bellied Sapsucker    | c | c | r |
| • Hairy Woodpecker          | u | u | u |
| • Downy Woodpecker          | c | c | c |
| • Eastern Kingbird          | c | c | c |
| Western Kingbird            | x | x |   |
| • Great Crested Flycatcher  | c | c | c |
| • Eastern Phoebe            | u | u | u |
| Yellow-bellied Flycatcher   | u |   | u |
| • Acadian Flycatcher        | r | r | r |
| • Traill's Flycatcher       | c | c | c |
| • Least Flycatcher          | c | c | c |
| • Eastern Wood Pewee        | c | c | c |
| Olive-sided Flycatcher      | u | u | u |
| • Horned Lark               | c | u | c |
| • Tree Swallow              | c | a | x |
| • Bank Swallow              | c | a | c |
| • Rough-winged Swallow      | c | c | c |
| • Barn Swallow              | c | c | c |
| • Cliff Swallow             | u | r | u |
| • Purple Martin             | c | c | c |
| • Blue Jay                  | a | c | c |
| Black-billed Magpie         | x |   | x |
| • Common Crow               | c | u | c |

|                              | S | F | W |
|------------------------------|---|---|---|
| Black-capped Chickadee       |   | u | u |
| • Tufted Titmouse            | u | u | u |
| • White-breasted Nuthatch    | q | o | o |
| Red-breasted Nuthatch        | u | u | u |
| Brown Creeper                | u | u | u |
| • House Wren                 | c | c | x |
| Winter Wren                  | u | u | u |
| Bewick's Wren                | x | x | x |
| • Carolina Wren              | r | r | r |
| • Long-billed Marsh Wren     | c | c | c |
| • Short-billed Marsh Wren    | r | r | x |
| • Mockingbird                | r | r | r |
| • Catbird                    | c | c | c |
| • Brown Thrasher             | c | c | c |
| • Robin                      | c | a | o |
| • Wood Thrush                | u | u | u |
| Hermit Thrush                | c | c | r |
| Swainson's Thrush            | c | c |   |
| Gray-cheeked Thrush          | u |   | u |
| • Veery                      | u | u | o |
| • Eastern Bluebird           | u | u | r |
| • Blue-gray Gnatcatcher      | c | u | c |
| Golden-crowned Kinglet       | c | c | u |
| Ruby-crowned Kinglet         |   |   | r |
| Water Pipit                  |   | u | r |
| Bohemian Waxwing             |   |   | x |
| • Cedar Waxwing              | u | u | u |
| Northern Shrike              |   | r | r |
| • Loggerhead Shrike          |   | o | c |
| • Starling                   |   | a | a |
| White-eyed Vireo             | o |   |   |
| • Yellow-throated Vireo      |   | u |   |
| Solitary Vireo               | u | u | u |
| • Red-eyed Vireo             | c | c | c |
| Philadelphia Vireo           | u |   |   |
| • Warbling Vireo             | c |   |   |
| Black-and-white Warbler      | c |   |   |
| • Prothonotary Warbler       | u | u |   |
| Worm-eating Warbler          | r |   |   |
| Golden-winged Warbler        | u |   |   |
| • Blue-winged Warbler        |   | r |   |
| Tennessee Warbler            |   |   |   |
| Orange-crowned Warbler       | c |   | x |
| Nashville Warbler            | c |   |   |
| Parula Warbler               | o |   |   |
| • Yellow Warbler             | c | c |   |
| Magnolia Warbler             | c | x |   |
| Cape May Warbler             | c |   |   |
| Black-throated Blue Warbler  | c |   |   |
| Myrtle Warbler               | a |   | o |
| Black-throated Green Warbler | c |   |   |
| • Cerulean Warbler           | u | x |   |
| Blackburnian Warbler         |   |   |   |
| Yellow-throated Warbler      |   |   |   |
| • Chestnut-sided Warbler     |   |   |   |
| Bay-breasted Warbler         |   |   |   |
| Blackpoll Warbler            |   |   |   |

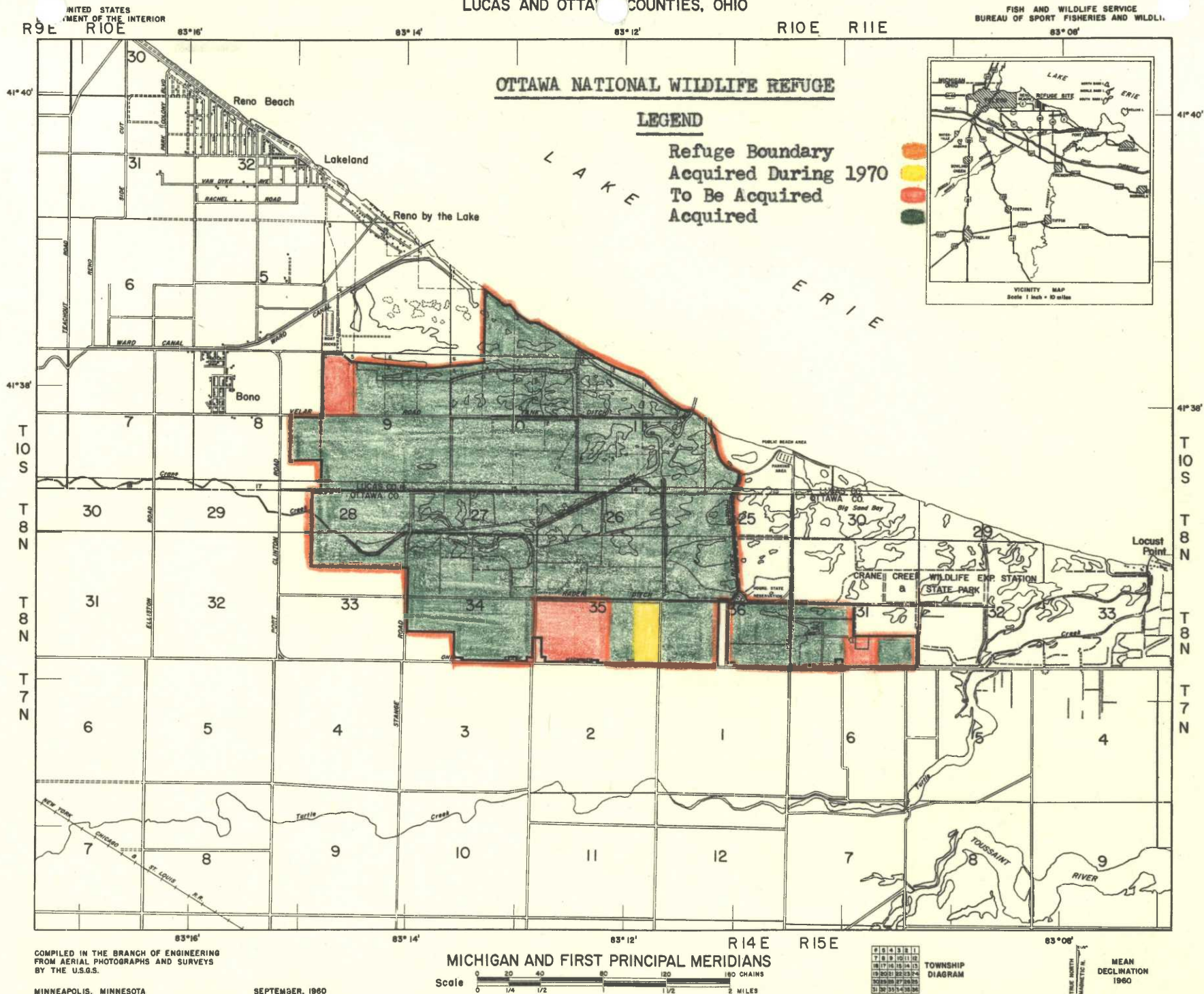
AREAS ADMINISTERED BY THE OTTAWA NATIONAL  
WILDLIFE REFUGE



# OTTAWA NATIONAL WILDLIFE REFUGE

LUCAS AND OTTAWA COUNTIES, OHIO

FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE



UNITED STATES DEPARTMENT OF THE INTERIOR  
BUREAU OF SPORT, FISHERIES AND WILDLIFE  
CEDAR POINT NATIONAL WILDLIFE REFUGE  
AMERICAN WILDLIFE FOUNDATION TRACT  
(10)  
2246.42 ACRES  
LUCAS COUNTY, OHIO  
MONUMENTED

SCALE  
0 10 20 30 40 CHAINS  
0 1 2 3 4 5 MILES

MONUMENTATION  
○ BRONZE CAPPED  
CONC. POST  
□ IRON PIPE  
□ IRON PIPE SET IN CONCRETE  
□ 4" x 4" CONCRETE MONUMENT

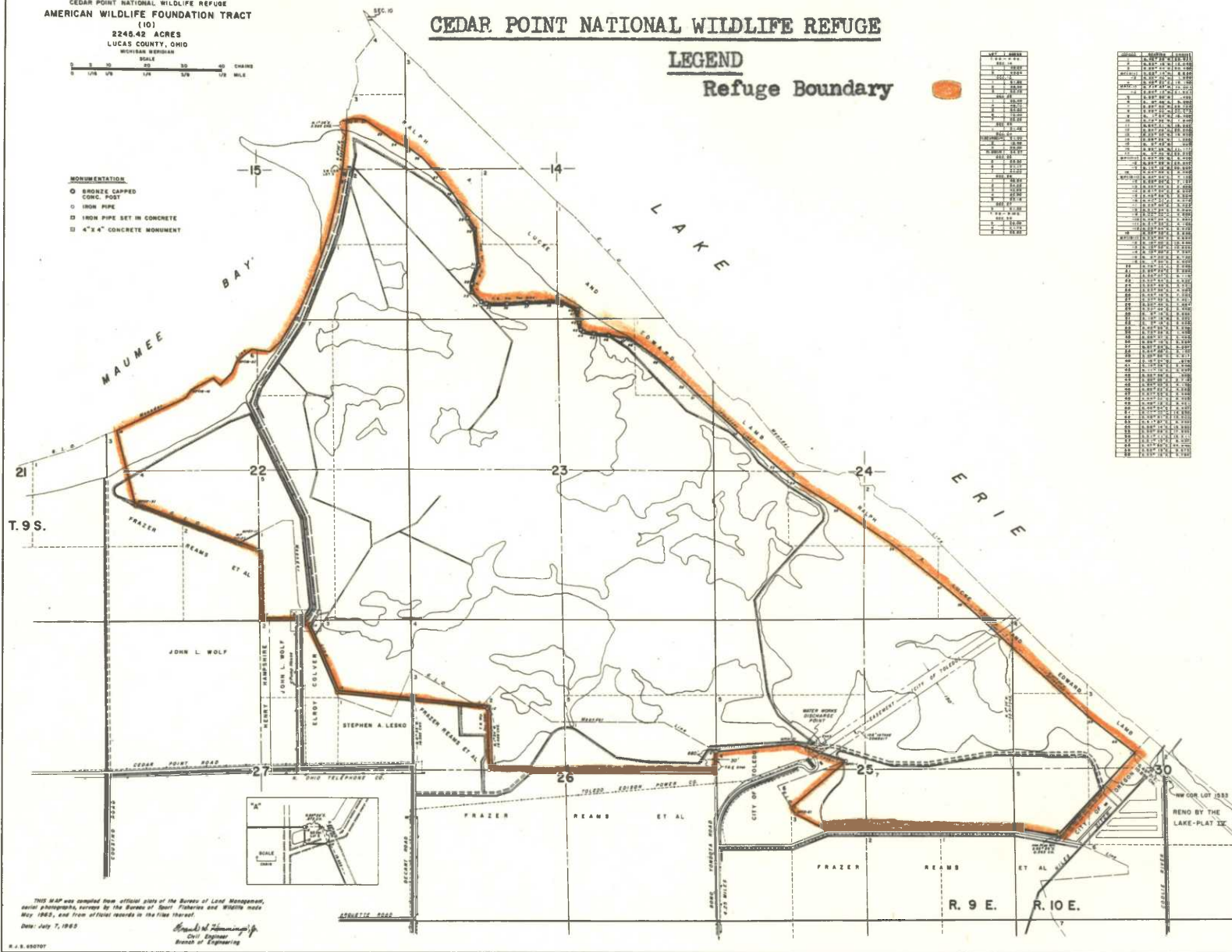
# CEDAR POINT NATIONAL WILDLIFE REFUGE

## LEGEND

Refuge Boundary

|    |       |
|----|-------|
| 1  | 1000  |
| 2  | 2000  |
| 3  | 3000  |
| 4  | 4000  |
| 5  | 5000  |
| 6  | 6000  |
| 7  | 7000  |
| 8  | 8000  |
| 9  | 9000  |
| 10 | 10000 |
| 11 | 11000 |
| 12 | 12000 |
| 13 | 13000 |
| 14 | 14000 |
| 15 | 15000 |
| 16 | 16000 |
| 17 | 17000 |
| 18 | 18000 |
| 19 | 19000 |
| 20 | 20000 |
| 21 | 21000 |
| 22 | 22000 |
| 23 | 23000 |
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| 28 | 28000 |
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| 37 | 37000 |
| 38 | 38000 |
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| 40 | 40000 |
| 41 | 41000 |
| 42 | 42000 |
| 43 | 43000 |
| 44 | 44000 |
| 45 | 45000 |
| 46 | 46000 |
| 47 | 47000 |
| 48 | 48000 |
| 49 | 49000 |
| 50 | 50000 |

|    |       |
|----|-------|
| 1  | 1000  |
| 2  | 2000  |
| 3  | 3000  |
| 4  | 4000  |
| 5  | 5000  |
| 6  | 6000  |
| 7  | 7000  |
| 8  | 8000  |
| 9  | 9000  |
| 10 | 10000 |
| 11 | 11000 |
| 12 | 12000 |
| 13 | 13000 |
| 14 | 14000 |
| 15 | 15000 |
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| 39 | 39000 |
| 40 | 40000 |
| 41 | 41000 |
| 42 | 42000 |
| 43 | 43000 |
| 44 | 44000 |
| 45 | 45000 |
| 46 | 46000 |
| 47 | 47000 |
| 48 | 48000 |
| 49 | 49000 |
| 50 | 50000 |



THIS MAP was compiled from official plats of the Bureau of Land Management, aerial photographs, surveys by the Bureau of Sport Fisheries and Wildlife made May, 1961, and from official records in the true thereof.  
Date: July 7, 1963.  
R. J. S. 680707  
Civil Engineer  
Branch of Engineering

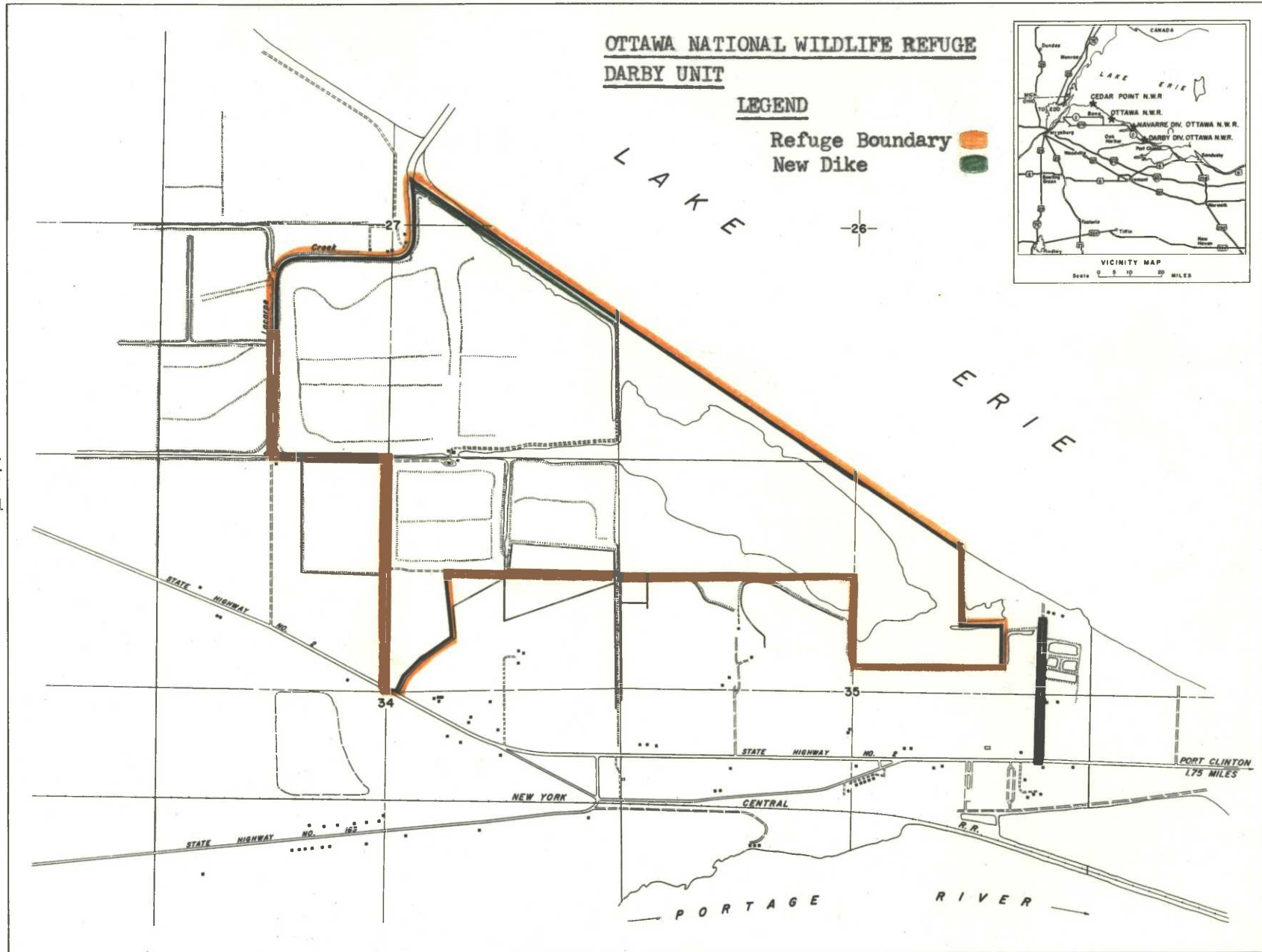
# OTTAWA NATIONAL WILDLIFE REFUGE (DARBY DIVISION)

OTTAWA COUNTY, OHIO

R. 16 E.

UNITED STATES  
DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE



COMPILED IN THE BRANCH OF ENGINEERING  
FROM AERIAL PHOTOGRAPHS, SURVEYS BY  
THE S.L.M. & G.M. BARTON SURVEY CO.

MINNEAPOLIS, MINNESOTA

SEPTEMBER, 1967

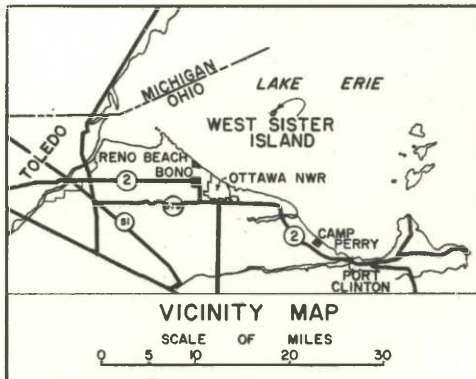
# PROPOSED WEST SISTER ISLAND WILDERNESS

UNITED STATES  
DEPARTMENT OF THE INTERIOR

LUCAS COUNTY, OHIO

FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

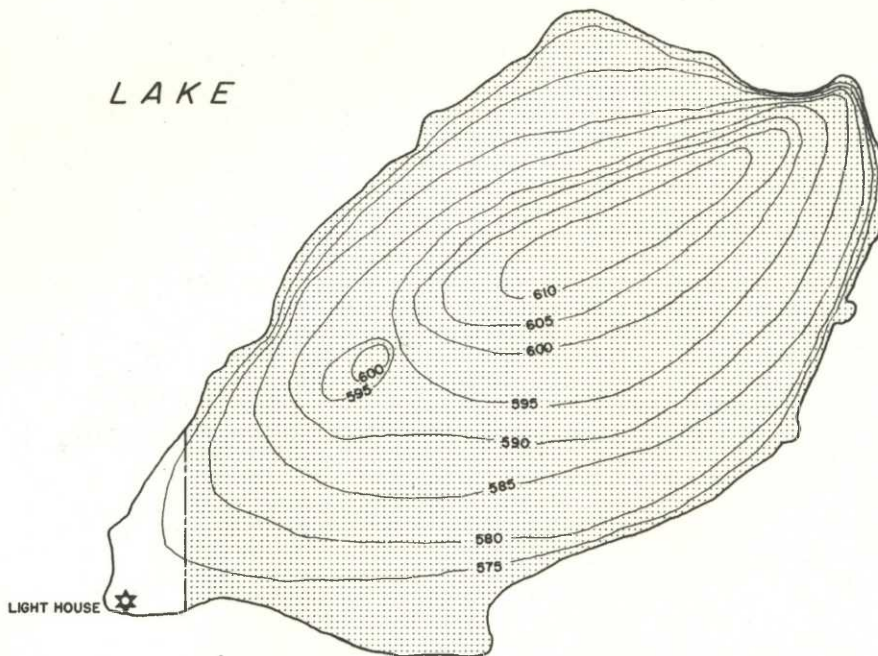
83° 06' 00"



41° 44' 30"

LAKE

41° 44' 30"



ERIE

41° 44' 00"

PRELIMINARY-SUBJECT TO CHANGE

41° 44' 00"

83° 06' 30"

83° 06' 00"

COMPILED IN THE DIVISION OF ENGINEERING  
FROM SURVEYS BY THE U.S. BUREAU OF LIGHTHOUSES  
AND U.S.C. & G.S.

MINNEAPOLIS, MINN.

MAY 1968

Scale 0 5 10 20 CHAINS  
0 1/16 1/8 1/4 MILE

CONTOUR INTERVAL 5 FEET DATUM IS MEAN SEA LEVEL

MEAN  
DECLINATION  
1965

MEAN  
DECLINATION  
1965

3R OHIO

404

# I. GENERAL

## A. Weather Conditions

|                  | Month        | <u>Precipitation</u> |                      | Max.<br>Temp. | Min.<br>Temp. |
|------------------|--------------|----------------------|----------------------|---------------|---------------|
|                  |              | <u>Normal</u>        | <u>Snowfall</u>      |               |               |
| January          | <u>1.09</u>  | <u>2.33</u>          | <u>14.2</u>          | <u>50</u>     | <u>-15</u>    |
| February         | <u>.89</u>   | <u>1.88</u>          | <u>7.7</u>           | <u>53</u>     | <u>- 5</u>    |
| March            | <u>2.61</u>  | <u>2.26</u>          | <u>8.3</u>           | <u>54</u>     | <u>13</u>     |
| April            | <u>4.26</u>  | <u>2.77</u>          | <u>4.5</u>           | <u>85</u>     | <u>22</u>     |
| May              | <u>4.05</u>  | <u>3.04</u>          | <u>     </u>         | <u>88</u>     | <u>28</u>     |
| June             | <u>4.59</u>  | <u>3.79</u>          | <u>     </u>         | <u>94</u>     | <u>39</u>     |
| July             | <u>5.99</u>  | <u>2.59</u>          | <u>     </u>         | <u>93</u>     | <u>46</u>     |
| August           | <u>3.00</u>  | <u>3.33</u>          | <u>     </u>         | <u>90</u>     | <u>50</u>     |
| September        | <u>5.78</u>  | <u>2.13</u>          | <u>     </u>         | <u>93</u>     | <u>31</u>     |
| October          | <u>2.00</u>  | <u>2.39</u>          | <u>     </u>         | <u>81</u>     | <u>26</u>     |
| November         | <u>2.09</u>  | <u>2.04</u>          | <u>3.6</u>           | <u>64</u>     | <u>13</u>     |
| December         | <u>1.49</u>  | <u>1.95</u>          | <u>8.1</u>           | <u>65</u>     | <u>  2</u>    |
| Annual<br>Totals | <u>37.84</u> | <u>30.50</u>         | <u>46.4</u> Extremes | <u>94</u>     | <u>-15</u>    |

A severe cold spell that began in December continued through the 24th of January. Monthly mean temperatures averaged 7° to 11° below normal. Frequent light fluffy snows provided enough ground cover to prevent damage to vegetation. January 8 was the coldest day in several years with a high of only 3°. At many locations in Ohio the temperature failed to climb above 0° for the first time since 1899. Winds up to 25 mph resulted in a chill factor of -40°.

On March 26 high winds of up to 43 mph from the southwest caused Lake Erie water levels along the refuge to drop three feet in one hour. Widespread wind damage was reported throughout the state. The largest single loss amounted to \$250,000 at a warehouse under construction in Toledo 15 miles west of the refuge. The only damage on the refuge was the loss of a few roofing shingles.

Wind, or the lack of it, can be a mixed blessing as noted in the following quotation from "Climatological Data", Ohio, August, 1970.

"A cold front moved across Ohio on the 3d, giving welcome relief from the humid conditions that had dominated the State's weather for nearly 10 days. The high pressure system which followed this front resulted in generally fair weather through the 8th. A gradual deterioration in air quality was noted throughout the State as the light winds and relatively stable atmospheric conditions which accompanied the high pressure system were insufficient for proper dilution of pollutants emitted into the air. Another stagnant high pressure system resulted in poor ventilation conditions over much of the State August 12-15. Normally, vertical and horizontal mixing are best during the afternoon hours, but as a result of the persistent stagnant conditions, midafternoon visibilities on the 15th ranged from 2 to 5 miles in haze and smoke. Early morning fogs were common during both of these periods, especially along the Ohio River."

Fortunately most refuges don't and hopefully won't have this condition to look forward to.

Rainfall totaled 10.37 inches above normal of 19.91 inches for the months of March through September. Farming was necessarily opportunistic but once the crops were in they did well with few exceptions. One notable exception on the refuge was wheat planting with only about half the wheat-for-harvest being sown.

A mild frost occurred on September 29th when the temperature dipped to 31°. The first heavy frost occurred on October 16th and 17th when the temperature dropped to 29° and 26° respectively.

Predictions of a "hard" winter did not come true in 1970 as light snows soon melted away. We will see what 1971 brings.

## B. Habitat Conditions.

### 1. Water.

Water management was complicated by several factors, and only moderately close adherence to the program could be attained. As a result, some marshes were less productive than desired and objectives were not fully achieved in others. In general, however, marsh habitat was considered good. No excessive flooding or drastic shortages occurred. Lake Erie remained too high to permit some planned drawdowns. The need to relieve off-refuge drainage prevented some planned maximum holdings. Breaches in dikes affected both drawdowns and

maximum pool stages, as did plugged outlets and faulty pumps.

Pools 1 and 2 were scheduled for reduced water levels during spring and summer to encourage vegetative growth. Both remained higher than planned because gravity discharges could not be made with Lake Erie remaining as high as it did. Consequently, food and cover in these two pools were less than desired. Emergent vegetation covered only about 30 percent of the marsh area.

Contrary, Cedar Point and Pool 3 were scheduled to hold water-levels as high as possible to reduce cattail-cover. A breach in the dike of Pool 3 and the need to release water from Cedar Point to facilitate off-refuge drainage curtailed cattail reduction.

Pools 6 and 8 were maintained as planned, and breached dikes prevented water control of Pools 4, 5, 7 and Darby. Pools 4, 5, and Darby provided moderately good habitat despite fluctuating water-levels. Lake Erie remained high enough to flood 25 to 50 percent of the pool areas.

The mouth of Crane Creek remained open throughout the year. No pollution from oil and cannery wastes was noted. A major share of the geese on the refuge, rested in two secluded back-water areas of Crane Creek.

## 2. Food and Cover.

Food was considered in "short supply" and not always readily available during the first quarter of the year. A flood in July 1969 greatly reduced crop yields. Ducks, geese and other wildlife had gleaned almost all of this poor crop in 1969, so there was little carry-over into 1970. What little carry-over there was, was buried in snow throughout much of January and February. Foods produced through agriculture was considered exhausted by the end of March. Waterfowl reacted accordingly. Both the peak number and length of stay was reduced. This lack of food may have been cause for a reduced nesting population as well. Upland game species were also hard pressed during this period and below normal populations throughout the year are attributed to these adverse conditions. Cover was considered adequate for all species throughout this period.

Food and cover conditions improved with the advance of spring weather. Harvested and mulched wheat fields provided food for many species including ducks from Mid-July through August. Early sown wheat and buckwheat fields provided an abundance of food from September on through the remainder of the year. Harvested soybean fields added to the larder in October, and

corn and sorghum greatly increased the amount of available food from about Mid-October through December. It was a good crop-year in 1970, and wildlife, particularly waterfowl, responded accordingly. A new record peak was attained. Also, the carry-over for early 1971, is thought sufficient to be able to provide for a record-breaking spring concentration.

No artificial feeding was done by the refuge, but the small winter-flock of waterfowl did scrounge some food placed in the goose pen for the captives.

Nesting cover was less and of poorer quality than desired. Many of our nesting strips having to be reestablished because of the 1969 flood. Nesting cover was considered adequate, although lacking quality, for the nesting populations inhabiting the refuge. With the establishment of more and better quality nesting cover, waterfowl and upland game production is expected to show a marked increase in future years.

In summary, cover was considered adequate although nesting cover lacked quality. Food was in short supply early in the year, but good crop-yields provided a variety and abundance of food the latter half. A good carry-over is expected to provide fully for spring migrants and refuge residents. No artificial feeding was done

## II. WILDLIFE

### A. Migratory Birds.

#### 1. Waterfowl.

Eight-hundred Canada geese, 250 mallards and 150 black ducks were recorded during the mid-winter inventory taken on January 8, 1970; however, the average wintering population of ducks was 2,000. This broke a trend toward larger wintering populations here at Ottawa. A continuous ground cover of snow from the middle of December 1969 through January undoubtedly helped. The count for the 1971 mid-winter inventory was 850 Canada geese, 1,500 mallards and 500 black ducks. This is essentially the same size wintering population as last year in spite of habitat conditions that would not discourage waterfowl from lingering into the winter. Snow cover has been very sparse and a good supply of food is still available in the fields.

During the third week of January the duck population dipped to about 100 and Canada geese to 800, the majority of the latter feeding primarily in the goose pen. All water areas for miles around the refuge remained frozen well into February except

for one small area kept open by the geese.

The spring migration began during the last week in February. Duck numbers built up to about 25,000 then fell off. Canada Geese peaked at 5,000 during mid-March then fell off. This lowered the spring peak for ducks to 50% of our refuge objective and Canada Geese to 20%, down from 85% and 32% respectively for last year. The low peaks and rapid drop-off were attributed to the lack of food on the refuge. The lack of food was caused by the crop-destroying flood of July 4th.

Swans failed to concentrate on the refuge in their usual numbers during spring migration. Reports indicated they spread out from Cleveland, Ohio to Monroe, Michigan with no large concentrations anywhere. Apparently their traditional migration from Chesapeake Bay was disrupted by a severe snow storm in the Appalachians. Two of Dr. Sladen's yellow-dyed swans with collars were seen on the refuge. These birds were marked on Chesapeake Bay.

Some 3,000 ducks and 50 semi-domestic geese (escapees from the goose-pen) remained on the refuge during the summer. About 700 additional geese oriented their activity in and from the goose-pen. Eight broods totaling 40 goslings were observed outside the goose-pen. Several broods, hatched near the office pond, remained on the pond or along the entrance road to flight stage and prompted many inquiries by the public. An aerial breeding-pair count was made on March 30th. A total of 750 pair were counted, 550 mallards and 200 black ducks. Over 1,000 mallard drakes congregated on Pool #2 in June.

By the end of August the duck population was close to 20,000. Migrant geese began arriving during the final week of September and peaked at 21,426 during the first week of November. Only about 350 Blues and Snows were seen this year compared to 1,500 that visited us last year. They spent much of their time feeding in fields adjacent to the entrance road and were commented upon by visitors and coveted by hunters.

The duck population peaked at 45,000 during the middle of December after dropping from a 35,000 peak in early November to 20,000 on December 1. Mallards and Blacks were the most numerous, as usual, followed by Pintail and Widgeon. Population fluctuations were attributed primarily to the unusually mild fall.

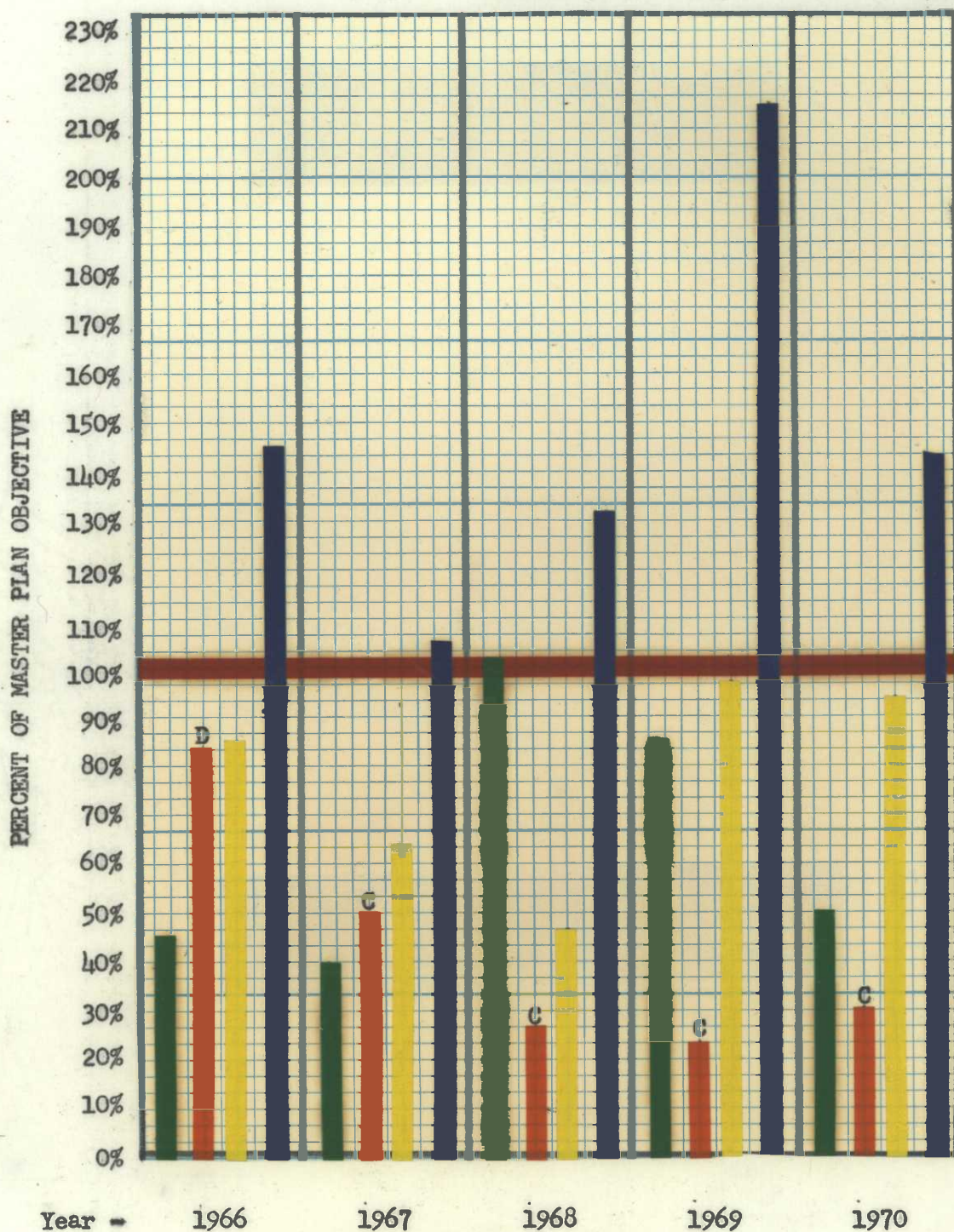
We are now approaching Master Plan Objectives for fall migration peak populations of ducks and geese, 90% and 86% respectively. The spring migration peak for ducks would probably have been close to 90% this year if food crops had not drowned

out during the previous summer. The spring goose peak should have been about 35% of Master Plan Objective. Accompanying these peak population percentages are annual use days which have exceeded Master Plan Objectives, 143% for ducks and 134% for geese, this year and have for the past several years. Depredation complaints have been minor in spite of excessive use days. Duck production was only 30% of the 1,500 objective. Goose production was 85% of the 500 objective but will probably drop off for a couple of years when the nesting-flock project is terminated.

We can conform to our objectives by crop-manipulation, water-manipulation, removal of sanctuary, etc., or, re-evaluate and redefine our objectives. If objectives are redefined, a few of the factors to be reconsidered would be: 1. What needs of the waterfowl resource should this refuge be responsible for supplying in relation to flyway objectives? 2. Once our responsibility to the resource is defined, what are the optimum services or opportunities we can provide for people? The "Systems Approach" and "Refuge Benefit Unit" concept should resolve these problems hopefully without scraping the Master Plan Concept.

# DUCK UTILIZATION OF REFUGE HABITAT

Figure I



Peak Number:

Spring (MPO\*50,000)

Fall (MPO 50,000)

Annual Use Days (MPO 3,000,000)

Production (MPO 1,500 annually)

(letters indicate census class, numerical data given in Table I, \*MPO = Master Plan Objective)

Table I - Duck Utilization of Refuge Habitat

| <u>Spring (Objective 50,000)</u> |              |             | <u>Fall (Objective 50,000)</u> |              |             |
|----------------------------------|--------------|-------------|--------------------------------|--------------|-------------|
| Year                             | Peak Numbers | % Objective | Year                           | Peak Numbers | % Objective |
| 1965                             | 27,900       | 55          | 1965                           | 14,900       | 29          |
| 1966                             | 22,450       | 45          | 1966                           | 42,000       | 84          |
| 1967                             | 19,900       | 40          | 1967                           | 31,600       | 63          |
| 1968                             | 50,325       | 101         | 1968                           | 23,000       | 46          |
| 1969                             | 42,475       | 85          | 1969                           | 48,925       | 98          |
| 1970                             | 25,000       | 50          | 1970                           | 45,000       | 90          |

| <u>Production (Objective 1,500)</u> |                     |             | <u>Annual Use Days (Objective 3,000,000)</u> |           |             |              |
|-------------------------------------|---------------------|-------------|--|-----------|-------------|--------------|
| Year                                | Number<br>Ducklings | % Objective | Year   | Total     | % Objective | % By Period* |
| 1965                                | 1,200               | 80          | 1965   | 3,049,650 | 102         | 30/20/46     |
| 1966                                | 1,240               | 83          | 1966   | 4,331,150 | 144         | 26/13/61     |
| 1967                                | 750                 | 50          | 1967   | 3,143,700 | 105         | 29/19/52     |
| 1968                                | 400                 | 27          | 1968   | 3,942,250 | 131         | 22/14/64     |
| 1969                                | 340                 | 23          | 1969   | 6,446,164 | 215         | 22/11/67     |
| 1970                                | 450                 | 30          | 1970   | 4,308,853 | 143         | 22/14/64     |

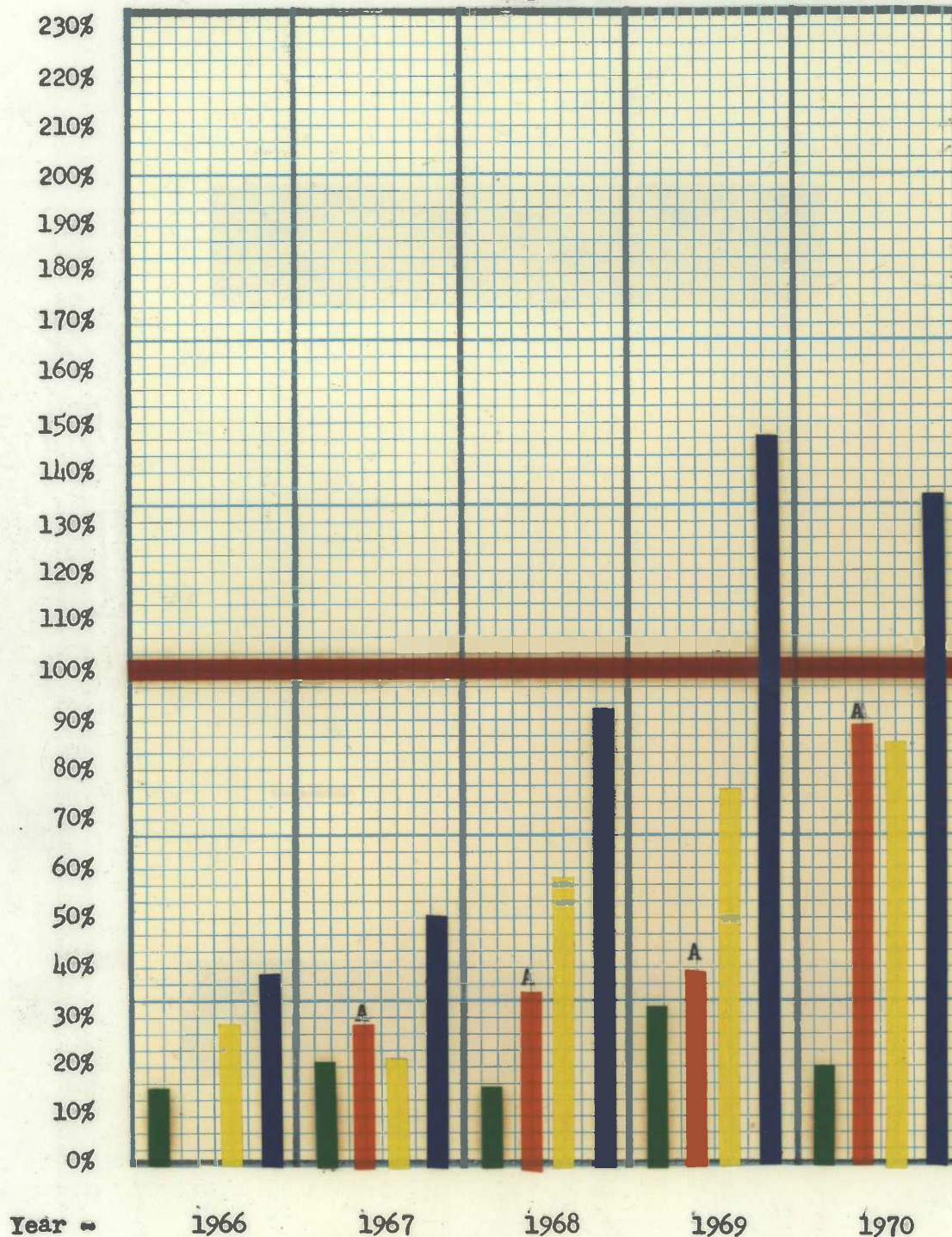
\* Jan.-Apr./May-Aug./Sept.-Dec.

(see figure I)

# GOOSE UTILIZATION OF REFUGE HABITAT

Figure II

PERCENT OF MASTER PLAN OBJECTIVE



Peak Number:

Spring (MPO\*25,000)

Fall (MPO 25,000)

Annual Use Days (MPO 1,000,000)

Production (MPO 500 annually)

(letters indicate census class, numerical data given in Table II, \*MPO = Master Plan Objective)

Table II - Goose Utilization of Refuge Habitat  
With Reference to Master Plan Objectives (MPO)

| <u>Spring (MPO 25,000)</u> |                     |                    | <u>Fall (MPO 25,000)</u> |                     |                    |
|----------------------------|---------------------|--------------------|--------------------------|---------------------|--------------------|
| <u>Year</u>                | <u>Peak Numbers</u> | <u>% Objective</u> | <u>Year</u>              | <u>Peak Numbers</u> | <u>% Objective</u> |
| 1965                       | 3,700               | 14                 | 1965                     | 1,300               | 5                  |
| 1966                       | 3,600               | 14                 | 1966                     | 7,000               | 28                 |
| 1967                       | 5,100               | 20                 | 1967                     | 5,150               | 21                 |
| 1968                       | 3,600               | 14                 | 1968                     | 14,500              | 58                 |
| 1969                       | 8,100               | 32                 | 1969                     | 18,975              | 76                 |
| 1970                       | 5,000               | 20                 | 1970                     | 21,426              | 86                 |

| <u>Production (MPO 500)</u> |                                  |                    | <u>Use Days (MPO 1,000,000 Annually)</u> |              |                    |                     |
|-----------------------------|----------------------------------|--------------------|--|--------------|--------------------|---------------------|
| <u>Year</u>                 | <u>Number</u><br><u>Goslings</u> | <u>% Objective</u> | <u>Year</u>                              | <u>Total</u> | <u>% Objective</u> | <u>% By Period*</u> |
| 1965                        | 0                                | 0                  | 1965                                     | 218,650      | 22                 | 50/0/45             |
| 1966                        | 0                                | 0                  | 1966                                     | 383,727      | 38                 | 27/0/73             |
| 1967                        | 138*                             | 28                 | 1967                                     | 497,987      | 50                 | 49/1/50             |
| 1968                        | 169*                             | 34                 | 1968                                     | 910,616      | 91                 | 19/1/80             |
| 1969                        | 196*                             | 39                 | 1969                                     | 1,471,184    | 147                | 32/1/67             |
| 1970                        | 425**                            | 85                 | 1970                                     | 1,336,512    | 134                | 19/7/74             |

\* hatched inside "goose-pen"  
 \*\* 350 hatched inside "goose-pen"  
    75 hatched outside

\*Jan.-Apr./May-Aug./Sept.-Dec.

(see figure II)

## 2. Coots.

Coots are ever-present and, while interesting in and of themselves, can be counted on as duck substitutes for tour groups that invariably arrive when ducks are feeding elsewhere. This year's production of approximately 250 is about average after last year's drop to 50 resulting from flooded conditions.

## 3. Other Water and Marsh Birds.

Great Blue Herons, Black Crowned Night Herons, and Common Egrets were present in their usual abundance both in and around the refuge. Their combined total production on the refuge, primarily on West Sister Island was again around 10,000. These birds, along with coots are the most conspicuous species throughout the summer.

One Snowy Egret put in an appearance during August and one Little Blue Heron spent most of the summer with us.

Cattle Egrets were present from early May to early October. Two adult and two immature utilized the office pond and new water-way along the entrance road much to the delight of bird watchers. Visitors could readily see the preferred feeding area of Cattle Egrets in wet meadows back from the pond bank compared to the larger Common Egret feeding in the pond itself.

## 4. Shorebirds, Gulls and Terns.

The most abundant species in this group were, as usual, the Herring and Ring-billed Gulls. Caspian Terns were also abundant and a few utilized the office pond as a feeding area for several days.

Thirty species in this category visited the refuge at one time or another through the year although some species such as the American Avocet, Northern Phalarope and Western Sandpiper were represented by only one individual each.

Several pools on the refuge have broken dikes and waterlevels fluctuate drastically depending on windspeed and direction and the subsequent waterlevel of Lake Erie. One benefit of this situation is the exposed mud-flats available for these birds to feed on.

## 5. Doves.

No variation in the normal migration of these birds was noted. Those that are year-round residents apparently had no serious difficulties during the frequent snows last winter and certainly had no problems during this years mild fall.

## B. Upland Game Birds.

Snow cover was extensive last winter, however, it did not become crusted so that pheasants and quail could not obtain food. As stated previously this last fall was mild and should have presented no problems to upland game birds. Food and cover this year have been excellent. Pheasant sightings have been frequent. Bobwhite quail, the only other upland game bird present on the refuge, were not observed this year, however, one was heard calling near the office. We hope to see a recovery of this plucky little bird.

## C. Big-Game Animals.

White-tailed deer, the only big game species residing on the refuge, are maintaining their population at a desirable level without any specific management being directed toward them. No road kills of deer have been reported yet they are numerous enough to be seen occasionally by visitors. Several fawns were sighted and they, as well as the adults, appeared to be in very good condition. External factors affecting the size of the population would include some poaching and kills by wandering dogs.

## D. Fur Animals, Predators, Rodents, Other Mammals.

### 1. Fur Animals.

Muskrats are the most important fur animal inhabiting the refuge. Habitat conditions are excellent except for fluctuating water-levels in several pools with broken dikes. The population is estimated to be about 20,000 or 5 muskrats per acre of marsh. Dike damage is the primary problem encountered with a desirably high population. Trappers are encouraged to concentrate on the "bank rats".

The population levels of other fur bearers remains within desirable limits. Raccoon, opossum and skunk are numerous enough to be seen occasionally yet do not seem to cause excessive nest destruction. Only a small population of mink is present as evidenced by the low number taken by trappers.

### 2. Predators.

Meat-eating wildlife continue their normal existance. Foxes, which are classified as "varmints", are plentiful but not too abundant. Local fox exterminators continue to complain that they are too numerous. Perhaps if they were reclassified as fur-bearers they would be considered scarce.

Feral dogs and cats are a problem as they are on most refuges.

Control techniques vary according to the situation as these animals can present a serious threat to upland and migratory species.

### 3. Rodents.

Ground hogs are numerous and constantly weaken dikes with their digging. Control measures are taken periodically, but have no lasting affect. Norway rats are seen occasionally around old buildings but have caused no problems. The squirrel population remains the same in isolated woodlots around the refuge.

### 4. Other Mammals.

Cottontail rabbits are abundant and in good health.

## E. Hawks, Eagles, Owls, Ravens, Crows, and Magpies.

Unfortunately our pair of nesting eagles were not successful this year. This nest is one of only six active nests along the southwest shore of Lake Erie. Only one of the six breeding pair produced an eaglet. "Our" eagles have apparently decided to move their nest to a smaller, (10 acres) but more remote woods about  $3/4$  of a mile west of the present nest. One immature eagle is also seen regularly. This is probably last years eaglet. Another pair are frequently seen at Cedar Point and a third pair at the Darby Unit. Last winter one eagle picked up a muskrat on the lawn, only 75 feet away from the office. Ofcourse no one had a camera in hand.

One Osprey was observed on April 5th and again on May 3rd. This species is usually sighted on the refuge once or twice each year. The spring migration passed through the refuge during the first week of May. About 100 Sparrow Hawks were seen on May 5th. The most abundant species on the refuge are the Sparrow, Red-tailed and Marsh Hawks.

Great Horned, Short-eared and Screech Owls were the only species observed during the year. One Horned Owl is again using a deserted Eagle nest at Cedar Point. The owl population is low enough so that their effect on other species is negligible.

About 500 Crows passed through the refuge on migration, leaving a summer population of about 50. Fortunately their presence is known, but not note worthy. A few of these creatures always add a little spice to the situation.

## F. Other Birds.

Red-singed blackbirds, while still our most abundant single species,

appear to have dropped from about 75,000 to about 50,000. They still outnumber our entire duck population.

Starlings continue to compete with Wood Ducks for nesting boxes. To combat this problem the openings in the boxes have been enlarged approximately one inch to allow more light to enter. The less-light-tolerant Starlings will hopefully respond in the Wood Duck's favor. To make the nest-box community, even less desirable for Starlings we have encouraged several Screech Owls to police the area in exchange for free-housing.

Members of the Toledo Naturalists' Association continued this year to make their monthly census. Many of these people are highly qualified birders and their observations provide valuable data for the refuge.

We anticipate receiving copies of the Ottawa Refuge Bird List that was compiled and submitted to Washington in September. Two-hundred and ninety birds are listed as well as twenty-five additional species which have been seen in the vicinity, but not on the refuge.

#### G. Fish.

No management is directed toward the fish population except to keep Carp out of the pools.

#### H. Reptiles.

Six Fox Snakes (Elaphe Vulpina) were sighted on one summer day on the refuge, which is unusual for this usually rare species.

#### I. Diseases.

None noted.

### III REFUGE DEVELOPMENT AND MAINTENANCE

#### A. Physical Development.

Development centered primarily on the headquarters area. Shoulders of the entrance road were shaped, smoothed and seeded. Low and misshapen areas in the headquarters and shop-equipment building yards were filled, shaped and seeded; and a concrete walk poured between the buildings. An elaborate sewage system to service the new service building was completed. Bins, benches and equipment were fabricated and/or installed in the building to ready it for use. Inside headquarters troublesome water lines were changed to

prevent further freezing. Ten new, large signs including the main entrance sign were mounted, and three gates were relocated to afford better protection. As part of the refuge beautification program, eleven excess buildings were removed.

Darby residence and garage, painted. Rewired and replumbed parts of the newly acquired Q-9, to ready it for Assistant Managers' occupancy.

Approximately one-half-mile of Cedar Point dike (interior slope) was rip-rapped to control erosion. Approximately one-quarter-mile of ditch bank and dike was rip-rapped to control erosion and repair ice damage at Darby. Some 6 to 8 feet on a 300 foot front of the residence yard had been lost to erosion prior to this action. Much of the rip-rap had to be hand placed. Approximately two-miles of trails and dike top regravelled.

Seven agricultural and marsh pumps and five water control structures were overhauled and/or reset.

#### B. Plantings.

##### 1. Aquatic and Marsh Plants.

None.

##### 2. Trees and Shrubs.

Ten ornamental shrubs were planted at headquarters for land-scaping.

##### 3. Upland Herbaceous Plants.

Approximately 42 acres of grasses were oversown on dikes, road shoulders, goose-pen, and headquarters, to better appearances and bolster weak spots. Moderately good germination and survival resulted. Resident geese caused some damage to lawn, road shoulders and goose-pen seedings.

##### 4. Cultivated Crops.

Eleven cooperators farmed 1,939 acres of refuge land.- Conversion from a five year to a three year crop rotation has been completed, with the elimination of alfalfa. One year of the rotation, which is the refuge share, is divided  $\frac{1}{4}$  corn,  $\frac{1}{2}$  buckwheat, and  $\frac{1}{4}$  sorghum, the following year is soybeans, all of which are harvested by the cooperator. Following harvest, the soybean acres are planted to wheat, to be harvested during the third year. Harvested wheat acres are replanted to wheat to be turned under as green

manure before the corn-buckwheat-sorghum planting which begins the three year cycle again.

The planting, growing and harvest seasons were wet this year with all the accompanying benefits and problems. During planting, hustle and luck played a big part. Once crops were in, they did well except on the more poorly drained ground. With crops growing well the weeds did also. Cultivation was a matter of timing between rains.

Rain delayed soybean harvest and wheat planting following harvest. Several cooperators did not get their wheat planted which will require adjustments in the cropping plan.

Buckwheat fields did not receive much waterfowl use this year in spite of a good crop. Normally these fields would be cleaned out. Many of the birds that would have fed on buckwheat were feeding in harvested soybean fields that had not been turned under, because of the rains. Hardly any compaction was observed.

#### C. Collections and Receipts.

##### 1. Seed or Other Propagules.

No seed or propagules collected. Grass seed was purchased to sow on dikes, road shoulders, lawn and meadow.

##### 2. Specimens.

None.

#### D. Control of Vegetation.

Mechanical control of vegetation was the only type used and consisted of crop cultivation and mowing of trails, dikes, ditch banks and meadows.

#### E. Planned Burning.

None.

#### F. Fires.

None.

## IV. RESOURCE MANAGEMENT

A. Grazing.

None.

B. Haying.

None.

C. Fur Harvest.

In the 1969-1970 trapping season, a total of 7,016 muskrats, 3 minks, 68 raccoons, 5 skunks, 22 opossums, and 9 foxes were harvested. The refuges share of pelts was sold for \$4,457.40.

A fur-harvest quota 14,800 muskrats plus all possible foxes, raccoons, opossums, and skunks was approved for the 1970-1971 trapping season. The refuge was again apportioned into six units to be trapped from December 14, 1970, through February 28, 1971. A drawing was held November 16, 1970, to select the six trappers plus two alternates from over 40 applicants. Each trapper is permitted an assistant.

"Lady luck" was against the refuge this year as only two good trappers were drawn. Three are very poor and the other only fairly good. Consequently, the harvest will fall far short of the quota. As of January 18, 1971, only 3,670 muskrats had been taken. Only two trappers will trap more than 1,000 muskrats a piece.

Trapping conditions have been hard but good. Continued cold temperature has thickened the ice, but it has been free of snow much of the time. Some "trespass" trapping has occurred, and on a few occasions refuge trappers reported their traplines "run" by others. No trap thefts have been reported.

Pelt prices at about \$1.40 for muskrats are a little higher this year than last, and one fur-buyer has already stated he will pay a premium price for Cedar Point muskrats. Muskrat carcasses are selling as in previous years; about 40¢ a piece or 3 for \$1.00. Refuge trappers get 50% of the muskrat pelts and 100% of the carcasses.

D. Timber Removal.

None.

E. Commercial Fishing.

None.

## F. Other Uses.

One special use permit was in effect which granted a tenant-farmer to inhabit a dwelling and out buildings for the period January 1, through December 31. A rental rate of \$65.00 per month is charged for a total revenue of \$780.00.

## V. FIELD INVESTIGATIONS OR APPLIED RESEARCH

### A. Progress Report.

#### 1. Cooperative Canada Goose Propagation Project.

The Canada Goose propagation project involving the refuge and Ohio Department of Natural Resources continued. The term of the project was from November 1, 1965 through October 31, 1970, with a goal to produce 500 goslings annually. The term of the agreement is now satisfied, but the goal of producing 500 goslings annually has never been attained. This years production within the pen was about 350 goslings bringing the total for the period to about 850. An estimated 75 goslings were produced on the refuge outside of the pen in 1970. The State has made no move to remove the captives and pen, and the Bureau has not pushed for their removal. The State has indicated a desire to extend the agreement for two more years. Bureau opinion is to extend the agreement for one extra year. Consequently, at least another years production seems certain, and the pen will probably not be removed until 1973 to allow maturation of these goslings produced in 1971 prior to their release.

#### 2. Neck-banding Canada Geese.

Neck-banding Canada Geese with various colored collars continued, but ran into a couple of snags. First, very few geese were captured, and second, Mr. John Koerner is entering military service in February 1971. Mr. Koerner, a graduate student at Ohio State University, marked and observed the geese locally, and was the clearing-house for sightings occurring elsewhere. Upon request, special effort was made by Patuxent to furnish Mr. Koerner with the information accumulated for assimilation in his final report. Information received to date indicates this a most interesting and worthwhile project. Hopefully it will be carried on by others. Excellent cooperation was received from observers in reporting Ottawa collared geese. This is what made the project worthwhile, and is very much appreciated. Many geese collared in 1969 returned to Ottawa in 1970.

### 3. Refuge Banding Program.

Emphasis for the past several years has been placed on banding Canada Geese. Little was known about the flock that migrates through this area. In summarizing recoveries, Table III gives indication of the wide-spread influence Ottawa may have, and viceversa, the number of areas that influence the picture at Ottawa. It seems the majority belong to the group designated the TVA flock, with minorities belonging to the east coast and Southern Illinois flocks. This may complicate meeting management objectives and goals set for "specific flocks."

As expected, many of the same geese stop at both Ottawa and Shiawassee Refuges, and Wheeler and Tennessee Refuges are the prime wintering areas. Somewhat of a surprise is the number of geese harvested in the spring by the Indians in Canada. Also a goose banded here in October 1969, was killed in September 1970, at Cape Jones, Quebec, which is the northeast point of James Bay. This is the first indication that some of our geese make use and perhaps nest in the area east of James Bay.

Table III - Canada Geese Band Returns To 2-17-71

| Where Recovered              |                         | Retraps or Death<br>By Natural Causes *1 | Losses Attributed<br>To Hunting *2 | Total |
|------------------------------|-------------------------|--|------------------------------------|-------|
| =====                        |                         |  |                                    |       |
| Region III                   | Ohio                    | 33 (+1)                                  | 37                                 | 71    |
|                              | Michigan                | 22 (+4)                                  | 24                                 | 50    |
|                              | Illinois                | 3 (+2)                                   | 8                                  | 13    |
|                              | Indiana                 | -  | 7                                  | 7     |
|                              | Wisconsin               | - (+1)                                   | 4                                  | 5     |
| Total                        |                         | 58 (+8)                                  | 80 (45.4%)                         | 146   |
| -----                        |                         |  |                                    |       |
| Region IV                    | Alabama                 | 12 (+2)                                  | 19                                 | 33    |
|                              | Tennessee               | 25 (+5)                                  | 6                                  | 36    |
|                              | Kentucky                | -  | 9                                  | 9     |
|                              | Virginia                | -  | 3                                  | 3     |
|                              | North Carolina          | -  | 3                                  | 3     |
|                              | Maryland                | -  | 2                                  | 2     |
|                              | South Carolina          | 1 (+1)                                   | -                                  | 2     |
| Total                        |                         | 38 (+8)                                  | 42 (23.9%)                         | 88    |
| -----                        |                         |  |                                    |       |
| Region V                     | Pennsylvania            | -  | 8                                  | 8     |
| Total                        |                         | -  | 8 (4.5%)                           | 8     |
| -----                        |                         |  |                                    |       |
| Canada                       | South of<br>latitude 50 | 11                                       | 16                                 | 27    |
|                              | North of<br>latitude 50 | -  | 30                                 | 30    |
| Attributed to Indian Harvest |                         |  |                                    |       |
| Total                        |                         | 11                                       | 46 (26.2%)                         | 57    |
| -----                        |                         |  |                                    |       |
| GRAND TOTAL                  |                         | 107 (+16) *3                             | 176 (100.0%)                       | 299   |

1966-58 banded, 14 returns (24.1%)  
 1967-91 banded, 17 returns (18.7%)  
 1968-1457 banded, 173 returns (11.8%)  
 1969-1001 banded, 67 returns (6.7%)

1970-42 banded, 3 returns (7.1%)  
 \*1 includes 09,10,88,89  
 \*2 includes 00,01,28,40  
 \*3 banded there, recovered at Ottawa

## VI. PUBLIC RELATIONS

A. Recreational Uses.

Recreation is limited to various types of nature hikes, slide talks and movies. Refuge headquarters can accomodate up to 40 persons on these occasions.

B. Refuge Vistors.

Following is a list of people who visited the refuge:

| Date        | Name             | Affiliation or Address                               | Purpose                                    |
|-------------|------------------|--|--|
| <u>Jan.</u> |                  | Engineer   |  |
| 19          | Richard Johnston | Minneapolis R. O.                                    | Final Inspection-Cedar Point               |
| 21          | Marvin Perry     | Lake Erie Wildfowlers                                | Work Projects                              |
| 30          | Norman Jimison   | Toledo Edison Company                                | Outside Shop Light                         |
| 30          | E. M. Adams      | Oak Harbor, Ohio                                     | Information                                |
| <u>Feb.</u> |                  |  |  |
| 4           | G. E. Cummings   | Area Biologist<br>Havana, Illinois                   | Discuss System Approach                    |
| 6           | T. C. Mackey     | Toledo, Ohio   | Refuge visit                               |
| 10          | James Stapleton  | Toledo, Ohio   | Bird-watching                              |
| 13          | Kermit Patchen   | Ohio Army National Guard<br>Columbus, Ohio(Engineer) | Boundary Dike-Inquiry                      |
| 13          | Roger Burch      | Ohio Army National Guard<br>Columbus, Ohio(Engineer) | Boundary Dike-Inquiry                      |
| 17          | Benny Morse      | Boy Scout Troop Leader<br>Port Clinton, Ohio         | Nature Hike - With Troop #384 - Party of 5 |
| 25          | Larry Toki       | U. S. Game Protector<br>Sandusky County              | To view film-"So Little Time"              |
| 25          | Garry McLaughlin | U. S. Game Protector<br>Ohio State                   | To view film-"So Little Time"              |
| 25          | Clyde Bolin      | U. S. Game Protector<br>Ohio State                   | To view film-"So Little Time"              |
| 25          | Laurel VanCamp   | U. S. Game Protector<br>Ohio State                   | To view film-"So Little Time"              |
| 26          | John Cason       | Cleveland Metropolitan<br>Park District              | Observation                                |
| 26          | J. Kent McCoy    | Cleveland Metropolitan<br>Park District              | Observation                                |
| <u>Mar.</u> |                  |  |  |
| 6           | Mrs. J. P. Scott | Bowling Green, Ohio                                  | Bird-watching                              |
| 9           | Fred Topping     | Port Arthur, Texas                                   | Bird-watching                              |
| 16          | Richard Godovse  | Point Pleasant, New Jersey                           | Refuge tour and visit                      |

B. Refuge Visitors (cont.)

| Date        | Name                       | Affiliation or Address                    | Purpose   |
|-------------|----------------------------|---|---|
| =====       |                            |   |   |
| <u>Mar.</u> |                            |   |   |
| 17          | R. S. Carmichael           | Lucas County Engineer<br>Toledo, Ohio     | Water problems                                  |
| 17          | Arthur Ozolin              | Lucas County Engineer<br>Toledo, Ohio     | Water problems                                  |
| 17          | Paul & Iris Moeller        | Columbus, Ohio                            | Observe Swans                                   |
| 20          | Paul Fetter                | Toledo, Ohio                              | Observation                                     |
| 21          | Mr.&Mrs. Geo.Griff-<br>ith | U.S.N.Fish Hatchery<br>Hebron, Ohio       | Courtesy & Refuge Visit                         |
| 21          | Dr. Milton Trautman        | Columbus, Ohio                            | Information & Visit Refuge                      |
| 21          | Dr. Mary Trautman          | Columbus, Ohio                            | Information & Visit Refuge                      |
| 21          | Elyria Audubon             | Elyria, Ohio                              | Refuge Field Trip -<br>Party of 19              |
| 23          | Dale Viles                 | Lansing, Michigan                         | Information & Visit Refuge                      |
| 31          | Bob Hotoling               | AnnArbor, Michigan                        | Bird Watching                                   |
| 31          | Bob Barone                 | AnnArbor, Michigan                        | Bird Watching                                   |
| 31          | Mr.&Mrs.L.Walford          | Berkeley, California                      | Bird Watching                                   |
| <u>Apr.</u> |                            |   |   |
| 1           | Mrs. Myrtle Sarver         | Waterville, Ohio                          | Visit Refuge                                    |
| 1           | Mrs. Ila Reisler           | Toledo, Ohio                              | Visit Refuge                                    |
| 1           | William Cornwall           | Philadelphia, Pa.                         | Former Job Corpsman &<br>Veteran-Visited Refuge |
| 3           | Mr.&Mrs. P. Jones          | Taylor, Michigan                          | Bird Watching                                   |
| 6           | John Toberg                | Sandusky, Ohio                            | Visit Refuge                                    |
| 7           | Michael Zwahlen            | Millbury, Ohio                            | Tour Refuge                                     |
| 7           | Ellen Pearce               | Denver, Colorado                          | Area and Refuge Visit                           |
| 7           | LeeAnn Greestoferro        | Toledo, Ohio                              | Information & Refuge Visit                      |
| 9           | Mr.&Mrs.D.Hinds            | AnnArbor, Michigan                        | Bird Watching                                   |
| 9           | Tom L. Langbon             | AnnArbor, Michigan                        | Bird Watching                                   |
| 9           | R. T. Langbon              | AnnArbor, Michigan                        | Bird Watching                                   |
| 10          | W. R. Kindserman           | Vermilion, Ohio                           | Refuge Tour                                     |
| 29          | Waller Lambert             | St.Charles, Michigan                      | Pick Motor for<br>Shiawassee NWR                |
| 29          | John Seyrek                | Elsie, Michigan                           | Pick up Motor for<br>Shiawassee NWR             |
| <u>May</u>  |                            |   |   |
| 1           | J. C. Finch                | Youngstown, Ohio<br>(Kentucky University) | Information on Refuge<br>Management & Tour      |
| 1           | Tom Basler                 | Richmond, Kentucky                        | " "   |
| 1           | James R. Smith             | Louisville, Kentucky                      | " "   |
| 1           | Edward Peace               | Cincinnati, Ohio                          | " "   |
| 1           | Kelly G. Mag               | Pikeville, Kentucky                       | " "   |
| 1           | Barbara Burchett           | Richmond, Kentucky                        | " "   |
| 1           | Linda White                | Lexington, Kentucky                       | " "   |

B. Refuge Visitors (cont.)

| Date        | Name                  | Affiliation or Address   | Purpose   |
|-------------|-----------------------|--|---|
| =====       |                       |  |   |
| <u>May</u>  |                       |  |   |
| 1           | Dr. W. J. Rudersdorf  | Kentucky University<br>Richmond, Kentucky                            | Information on Refuge<br>Management & Tour              |
| 1           | Peter Thompson        | " "  | " "   |
| 4           | Mrs. B. W. Glass      | Oregon, Ohio   | Visit Refuge  |
| 4           | Mrs. Ruth Clark       | Oregon, Ohio   | Visit Refuge  |
| 4           | Gilbert Gose          | Toledo, Ohio   | Employment Inquiry                                      |
| 4           | Tim Fisher            | Martin, Ohio   | Interest in Refuge Operations                           |
| 4           | Lowell Roe            | Toledo, Ohio   | Toledo Edison Co., lease                                |
| 5           | Marvin K. Johnson     | District Game Biologist<br>East Lansing, Michigan                    | Motor Parts from Cedar Point                            |
| 5           | Richard Kandik        | Toledo, Ohio   | Information on Refuge                                   |
| 7           | John F. Barsa         | Parma, Ohio  | Tour Refuge   |
| 7           | Richard Paulette      | Oak Harbor, Ohio   | Inquiry & Tour Refuge                                   |
| 8           | E. E. Good            | Ohio State University<br>Wildlife Management Class<br>Columbus, Ohio | Wildlife Management and<br>Tour Refuge<br>(Group of 12) |
| 15          | Marjorie Dean         | Toledo Naturalist<br>Toledo, Ohio                                    | Cattle Egrets - Inquiry                                 |
| 19          | Napin Shelton         | Ann Arbor, Michigan  | Check on Shore Birds                                    |
| 19          | Mark Feusner          | Fremont, Ohio  | Make Preparations for 5th<br>Grade Conservation Tour    |
| 19          | Doyle Sominec         | Martin, Ohio   | " " "   |
| 19          | Rev. & Mrs. J. Remer  | Huron, Ohio  | Bird & Wildlife Interest                                |
| 19          | Robert C. Haas        | Plymouth, Ohio   | Bird Watcher  |
| 25          | Mark Moeller          | Millbury, Ohio   | Refuge Inquiry  |
| 25          | Ed Jensen             | Elmore, Ohio   | Wildlife Interest                                       |
| 27          | J. B. Roberts         | Birmingham, Michigan   | Inquiry on Refuge Tours<br>and Drives                   |
| 28          | William Knitt         | Toledo, Ohio   | Observation of Waterfowl                                |
| 28          | Iris Cole             | Clay Center, Ohio  | Wildlife Observations<br>(Party of 5)                   |
| <u>Jun.</u> |                       |  |   |
| 5           | Mr. & Mrs. J. Cooper  | Lakeswood, Ohio  | Bird Watching   |
| 5           | Richard Wolters       | Holland, Michigan  | Interested in Wildlife                                  |
| 11          | James Monnie          | Minneapolis, R.O.  | Recreation Planning                                     |
| 11          | Marvin Duncan         | Minneapolis, R.O.  | Recreation Planning                                     |
| 11          | Edward Stevenson      | Minneapolis, R.O.  | Recreation Planning                                     |
| 16          | Stanley A. Burger     | U. S. Dept. of Labor<br>Washington, D. C.                            | Job Corps Property                                      |
| 23          | A. M. Rubendunst      | Cincinnati Bd. of Educa-<br>tion, Cincinnati, Ohio                   | Information and Tour of<br>Refuge                       |
| 24          | Tom Heferle           | Toledo, Ohio   | Summer Employment Inquiry                               |
| 26          | Mr. & Mrs. E. Novak   | Warren, Michigan   | Tour Refuge   |
| 26          | Mr. & Mrs. O. White   | Waupun, Wisconsin  | Visit & Tour Refuge                                     |
| 26          | Mr. & Mrs. R. Bittner | Waupun, Wisconsin  | " " " "   |

B. Refuge Visitors (cont.)

| Date        | Name                   | Affiliation or Address      | Purpose                          |
|-------------|------------------------|-----------------------------|----------------------------------|
| <u>Jul.</u> |                        |                             |                                  |
| 1           | Mike O'Brien           | U. S. Dept. of Labor        |                                  |
| 1           | Stanley Burger         | Gehier Gerine, Maryland     | Job Corps Property Disposal      |
|             |                        | U. S. Dept. of Labor        | " " " "                          |
| 1           | George Miller          | Edison, New Jersey          | " " " "                          |
|             |                        | U. S. Dept. of Labor        | " " " "                          |
|             |                        | Alexandria, Virginia        |                                  |
| 1           | Ivan Barlem            | Detroit, Michigan           | Visit and Tour Refuge            |
| 13          | Mrs. A. I. Klug        | Pittsburg Public Schools    | Information & Tour Refuge        |
|             |                        | Pittsburg, Penna.           |                                  |
| 13          | Audrey C. Klug         | Pittsburg Public Schools    | " " " "                          |
|             |                        | Pittsburg, Penna.           |                                  |
| 14          | Earl Cunningham        | Mississippi Valey Mgt.      | Region 4 - Courtesy Visit        |
|             |                        | Biologist, Memphis, Tenn.   |                                  |
| 14          | W. A. Tuxpatrice       | Ontario, Canada             | Camping Inquiry and              |
|             |                        |                             | Tour Refuge                      |
| 14          | Chris Stotler          | Rudolph, Ohio               | Mapping Corn Fields for          |
|             |                        |                             | Division of Wildlife Services    |
| 16          | Paul Laes              | Dayton, Ohio                | Public Relations Rep. Frig. Mfg. |
|             |                        |                             | Co., Information & Tour Refuge   |
| 17          | Mr. & Mrs. A. Thornton | Pittsburgh, Penna.          | Bird Watching                    |
| 17          | Kent Muchulland        | Orchard Lake, Michigan      | Make Arrangements for Boy        |
|             |                        |                             | Scout Troop 115 to Tour Refuge   |
| 20          | Stacy Lloyd            | Toledo, Ohio                | Observation & Research           |
| 20          | Bob Houghton           | Toledo, Ohio                | Snake Hunting for Project        |
| 20          | Nancy Stork            | Toledo, Ohio                | Observation & Research           |
| 20          | Tom Rudry              | Toledo, Ohio                | " "                              |
| 22          | Harold W. Baldwin      | Toledo, Ohio                | Artist - Observe Wildlife        |
| 27          | Mr. & Mrs. G. Young    | Madison Hgts., Michigan     | Sight-seeing & Information       |
| 28          | Ben Chio               | Snyder, Oklahoma            | Courtesy Call & Refuge Visit     |
| 28          | Mr. & Mrs. T. Cole     | Toledo, Ohio                | Information & Tour Refuge        |
| 29          | Ellen A. Brediger      | Toledo, Ohio                | Wildlife Observation             |
| 29          | C. A. Glasgow          | Hawk Mtn. Sanctuary, Penna. | Wildlife Information             |
| 29          | Ann Spencer            | Toledo, Ohio                | Wildlife Observation & Tour      |
| 29          | Mrs. K. Prediger       | Toledo, Ohio                | " " " "                          |
| 29          | Kathy Prediger         | Toledo, Ohio                | " " " "                          |
| 29          | Theknapp Family        | Westland, Michigan          | " " " "                          |
| 30          | Walter Edelen          | Toledo, Ohio                | Open Space Study-Toledo          |
|             |                        |                             | Council of Government            |
| 30          | Peter Atonna           | Toledo, Ohio                | " "                              |
| 30          | Clark Taylor           | Port Clinton, Ohio          | Wildlife Observation             |
| <u>Aug.</u> |                        |                             |                                  |
| 3           | David Denin            | Toledo, Ohio                | Wildlife Observation             |
| 4           | Todd Fairfax           | Ashtabula, Ohio             | Information & Observation        |
| 4           | Mr. & Mrs. E. Swenson  | Irwin, Penna.               | " " " "                          |
|             |                        | School Principals           |                                  |
| 5           | Eugene Mannes          | Ridley Park, Penna.         | Wildlife Observation             |
| 7           | Gilbert Gessert        | Toledo, Ohio                | Sight-seeing                     |
| 7           | O. J. Kane             | Toledo, Ohio                | " "                              |

B. Refuge Visitors (cont.)

| Date  | Name                             | Affiliation or Address                                      | Purpose  |
|-------|----------------------------------|---|--|
| ===== |                                  |   |  |
| Aug.  |                                  |   |  |
| 7     | Richard Sullivan                 | Saginaw, Michigan   | Information & Observation                      |
| 10    | W. F. Ramsey                     | Huron, Ohio   | Sight-seeing                                   |
| 10    | D. Morgan                        | N. Rayalton, Ohio   | " "  |
| 12    | W. C. Nuchuey                    | Division of Wildlife  | Courtest Call & Visit                          |
| 12    | R. Kendale                       | Port Clinton, Ohio  | Wildlife Observation                           |
| 12    | R. Morgan                        | Port Clinton, Ohio  | " "  |
| 12    | Hank Andrews                     | Cleveland Press News<br>Cleveland, Ohio                     | Information on Press<br>Releases               |
| 12    | Daniel Macana                    | Exchange Student(Wisconsin)<br>Kenya, East Africa           | Information & Observation<br>For Project       |
| 12    | Victor H. Bernal                 | Exchange Student(Sisconsin)<br>El Salvador, Central America | Information & Observation<br>For Project       |
| 13    | Mr.&Mrs.A.Hoefle                 | Toledo, Ohio  | Bird Watching                                  |
| 13    | Mr.&Mrs. J. Kotok<br>and Family  | Refuge Manager-Agassiz<br>NWR, Middle River, Minn.          | Courtesy Call & Visit                          |
| 14    | Dr.Douglas McLain                | Great Lakes Fishery Lab.<br>Ann Arbor, Michigan             | Courtesy Visit                                 |
| 17    | Bill Houser                      | Toledo, Ohio  | Information & Visit                            |
| 17    | Norman Trott                     | Melbourne-Victoria,<br>Australia                            | Information & Visit                            |
| 18    | Robert T.Mitchell                | Patuxent Wildlife Research<br>Center, Sandusky, Ohio        | Blackbird Depredations                         |
| 18    | Paul W. Lefebvre                 | Wildlife Research Lab.<br>Gainesville, Florida              | " "  |
| 18    | B. L. Bishop                     | Oregon Ohio   | Sight-seeing                                   |
| 18    | A. C. Freligh                    | Toledo, Ohio=   | " "  |
| 18    | John Moor                        | Toledo, Ohio  | " "  |
| 19    | Herbert Dixon                    | Flint, Michigan   | Information & Observation                      |
| 20    | Kenneth Kelly                    | Brunswick, Ohio   | Sight-seeing                                   |
| 20    | Elmer Schoemock                  | Toledo, Ohio  | Photograph Wildlife                            |
| 24    | Paul Burnor                      | Burnor Realty Co.<br>Toledo, Ohio                           | Information & Observation                      |
| 24    | Joe Pilkington                   | Toledo, Ohio  | " " "  |
| 24    | Bob Martin                       | Toledo, Ohio  | " " "  |
| 24    | Don Wenkhous                     | National Audubon Society<br>Gibsonia, Penna.                | Information & Observation                      |
| 25    | R. Piper                         | U. S. Army Colonel<br>Fort Benning, Georgia                 | Information & Observation                      |
| 25    | Lois Klempner                    | Toledo, Ohio  | " " "  |
| 25    | Don Strayes                      | Toledo, Ohio  | News Photographer                              |
| 25    | Richard A. Coon                  | Division of Wildlife Serv.<br>Sandusky, Ohio                | Information on Blackbirds<br>and Courtesy Call |
| 25    | Richard O. Winters               | " " " "   | " " " "  |
| 25    | Chris Stotler                    | " " " "   | " " " "  |
| 26    | Mr.&Mrs.R.Renaud                 | Windsor, Ontario, Canada                                    | Information & Observation                      |
| 27    | Mr.&Mrs.C.Stafford<br>and Family | Jackson, Michigan   | Sight-seeing                                   |

B. Refuge Visitors (cont.)

| Date  | Name               | Affiliation or Address                                | Purpose                                     |
|-------|--------------------|---|---|
| ===== |                    |   |   |
| Aug.  |                    |   |   |
| 27    | Donald Roberts     | Dowling, Michigan                                     | Wildlife Information & Observation          |
| 27    | C. Wilson          | Madison Hgts., Michigan                               | " "   |
| 27    | Tom Rudry          | Toledo, Ohio  | Photography & Observation                   |
| 27    | Bob Houghton       | Toledo, Ohio  | " " "                                       |
| 27    | Stacy Lloyd        | Toledo, Ohio  | " " "                                       |
| 27    | Mr.&Mrs.G.Knepper  | McComb, Ohio  | Bird-watching                               |
| 27    | Jeffrey Sanders    | Chicago, Illinois                                     | Bird-watching & Photography                 |
| 28    | Mrs. P. Grenier    | Detroit, Michigan                                     | Tour Refuge                                 |
| 28    | Mrs. E. Eteen      | Detroit, Michigan                                     | Tour Refuge                                 |
| 31    | Richard Glossa     | F.B.I., Sandusky, Ohio                                | Investigate Theft                           |
| 31    | Robert Quaintance  | F.B.I., Sandusky, Ohio                                | Investigate Theft                           |
| Sep.  |                    |   |   |
| 1     | Donald Tieman      | Port Clinton, Ohio                                    | Sight-seeing                                |
| 1     | Mr.&Mrs. Major     | Vermilion, Ohio                                       | " "   |
| 3     | K. Uleienki        | Fulbright Student<br>Miami (Florida) University       | Interested in American<br>Wildlife Refuges- |
|       |                    | Nugegoda, Ceylon                                      | Information & Observation                   |
| 3     | Mr.&Mrs.E.Shueavar | Toledo, Ohio  | " "   |
| 3     | Ken Schedler       | Cleveland, Ohio                                       | Visit Refuge                                |
| 4     | Carl J. Ulbrich    | Troy, Michigan  | Visit Refuge                                |
| 8     | C. A. Sticling     | Vermilion, Ohio                                       | Information & Observation                   |
| 9     | P. G. Jacle        | Port Clinton, Ohio                                    | Bird-study                                  |
| 9     | E. M. Jensen       | Rocky Ridge, Ohio                                     | Duck-study                                  |
| 9     | Ed. Dusseau        | Rocky Ridge, Ohio                                     | Duck-study                                  |
| 9     | Ed. Kaiser         | Rocky Ridge, Ohio                                     | Geese-study                                 |
| 9     | Wm. R. Kinderman   | Vermilion, Ohio                                       | Information-Waterfowl<br>Regulations etc.   |
| 15    | Rodney Bearns      | Graytown, Ohio  | To discuss the Geese &<br>Duck Population   |
| 15    | Orten Bearns       | Graytown, Ohio  | " " " "                                     |
| 16    | Michael Mount      | Tiffin, Ohio - Ohio<br>State University, Med. Student | Wildlife Observation                        |
| 16    | C. W. Lutz         | Tiffin, Ohio  | Wildlife Observation                        |
| 16    | Richard Sette      | Waverly, Ohio   | " "   |
| 16    | Mr.&Mrs.E.S.Thorn  | Akron, Ohio   | " "   |
| 17    | Dwight Gettings    | Toledo, Ohio  | " "   |
| 17    | Dave Krueger       | Toledo, Ohio  | " "   |
| 17    | Marcella Dehring   | Genoa, Ohio   | " "   |
| 17    | Richard Sette      | Waverly, Ohio   | " "   |
| 21    | Mr.&Mrs.R.Sproull  | Toledo, Ohio  | " "   |
| 22    | J. T. Babco        | Worthington, Ohio                                     | Bird-watching                               |
| 24    | Mr.&Mrs.W.L. Ross  | Brighton, Michigan                                    | Bird-watching                               |
| 25    | William Feechs     | Lansing, Michigan                                     | Law Enforcement                             |
| 28    | Daniel Lenke       | Port Clinton, Ohio                                    | Observe Wildlife                            |
| 28    | M. D. Downs, II    | Toledo, Ohio  | Observe Wildlife                            |

B. Refuge Visitors (cont.)

| Date  | Name                  | Affiliation or Address                                     | Purpose                       |
|-------|-----------------------|--|-------------------------------|
| ===== |                       |  |                               |
| Sep.  |                       |  |                               |
| 28    | Richard A. Coon       | Division of Wildlife Serv. Courtesy Call<br>Sandusky, Ohio |                               |
| 30    | Marcia Mason          | Girl Scout's Leader<br>Toledo Area                         | Tour Refuge                   |
| 30    | Mary Robinson         | " " "  | " "                           |
| 30    | Alice Streeter        | " " "  | " "                           |
| 30    | Kathy Kruse           | " " "  | " "                           |
| 30    | Mrs. G. Willett       | " " "  | " "                           |
| 30    | Dolores Linke         | " " "  | " "                           |
| 30    | Joyce McClellan       | " " "  | " "                           |
| 30    | Barbara Sury          | " " "  | " "                           |
| 30    | Terry Edwards         | " " "  | " "                           |
| 30    | Patricia Shaffer      | " " "  | " "                           |
| 30    | Sue Silka             | " " "  | " "                           |
| 30    | Gwen Fahey            | " " "  | " "                           |
| 30    | R. Cameran            | Northfield, Ohio   | Wildlife Observation          |
| Oct.  |                       |  |                               |
| 1     | M. C. Mondl           | Bowling State University<br>Bowling Green, Ohio            | Seine Fishing Information     |
| 1     | Isabel Taylor         | AnnArbor, Michigan   | Wildlife Observation          |
| 1     | Fred Fairbairn        | London, Ontario  | Information & Observation     |
| 1     | G. Rhem               | Hamilton, Ontario  | " " "                         |
| 1     | K. W. Dittmer         | AnnArbor, Michigan   | Bird-watching                 |
| 2     | Wm. Hawgood           | Cleveland, Ohio  | Information & Observation     |
| 2     | Art Bryan             | Cleveland, Ohio  | " " "                         |
| 2     | Roger Gamble          | Toledo, Ohio   | Wildlife Observation          |
| 2     | D. C. Blevins         | Winchester Arms Repre-<br>sentative, Louisville, Ky.       | Courtesy Call                 |
| 2     | R. D. Ogden           | B.S.F.W. Service<br>Columbus, Ohio                         | Courtesy Call                 |
| 2     | Mr.&Mrs. W. Hehr      | Toledo, Ohio   | Wildlife Observation          |
| 5     | Clayton Ohm           | Port Clinton, Ohio   | " "                           |
| 5     | Mr.&Mrs. M. Romoser   | Lorain, Ohio   | " "                           |
| 6     | Charles F. Daniels    | Huron, Ohio  | Wildlife Photography          |
| 6     | C. A. Shepherst       | Portland, Oregon   | Information & Observation     |
| 6     | Mr.&Mrs. J. Shepherst | Toledo, Ohio   | " " "                         |
| 6     | J. C. Hedin           | Toledo, Ohio   | " " "                         |
| 6     | Dale Davis            | Toledo, Ohio   | " " "                         |
| 6     | Emery Schepp          | Waupun, Wisconsin  | Refuge & Wildlife Observation |
| 6     | Gerard Mevtes         | Toledo, Ohio   | Observe Migration             |
| 7     | James M. Cronk        | Norwalk, Ohio  | " "                           |
| 8     | Mrs. D. Young & Son   | Norwalk, Ohio  | " "                           |
| 8     | Rachel Crank          | Norwalk, Ohio  | " "                           |
| 8     | Mr.&Mrs. R. Hartsock  | Fostoria, Ohio   | Observe Migration             |

B. Refuge Visitors (cont.)

| Date  | Name               | Affiliation or Address  | Purpose   |
|-------|--------------------|---|---|
| ----- |                    |   |   |
| Oct.  |                    |   |   |
| 9     | Dennis Kurtz       | Oregon, Ohio  | Information & Observation   |
| 9     | Ray Fassett        | Oregon, Ohio  | " " "   |
| 9     | R. J. Fassett      | Oregon, Ohio  | " " "   |
| 9     | Chris Stotler      | Instructor-Muskingum Area<br>Technical Institute,<br>Zanesville, Ohio | Tour of Refuge<br>(also 17 students in<br>the party)                |
| 9     | Charles Woolf      | " " "   | " "   |
| 9     | Paul J. Burnor     | Burnor Realty Co.<br>Toledo, Ohio                                     | Information & Observation   |
| 9     | Mr.&Mrs.H.Sinclair | Port Clinton, Ohio  | Observe Migration   |
| 9     | Mr.&Mrs.C.Taylor   | Port Clinton, Ohio  | Observe Migration   |
| 9     | Mr.&Mrs.T.Kruse    | Toledo, Ohio  | Observe Migration   |
| 13    | Frank Barber       | Milan, Ohio   | Information & Observation   |
| 16    | Charles Kniffin    | U.S.G.M.A., Indiana   | Courtesy Call   |
| 17    | Charles Balduf     | Nelsonville, Ohio   | Information & Observation   |
| 19    | Dr.&Mrs.L.Bristol  | Ann Arbor, Michigan   | Bird-watching   |
| 19    | Mr.&Mrs.L.Santes   | Mt. Pocono, Penna.  | Bird-watching   |
| 20    | Elizabeth Munger   | H.S.Senior's English<br>Instructor, Perrysburg, Ohio                  | 46 seniors & 3 adults-viewed<br>"So Little Time" & Toured<br>Refuge |
| 20    | Kent Mulholland    | Boy Scout, Troop 115<br>Leader, Orchard Lake, Mich.                   | To arrange for tour of<br>Refuge & Banding Program                  |
| 20    | Tom Whazton        | Ohio Div. of Wildlife<br>Sandusky, Ohio                               | To visit Refuge Manager   |
| 20    | Wm. Ambrose        | Riverview School For<br>Retarded Children                             | Field Trip-15 students<br>and 3 adults                              |
| 20    | Harold Mayfield    | Waterville, Ohio  | To visit Refuge Manager   |
| 21    | Hilde Bechtold     | St. Paul, Minnesota   | Information for Research<br>Project                                 |
| 22    | J. D. Fleming      | Toledo, Ohio  | Visit Refuge  |
| 22    | R. C. Smith        | B. C. I., London, Ohio  | Information & Observation   |
| 23    | T. DuLuc           | Oberlin, Ohio   | Bird-watching   |
| 23    | H. Jocabensen      | Fremont, Ohio   | Sight-seeing  |
| 23    | James Lenardson    | Toledo Edison Company<br>Toledo, Ohio                                 | Sight-seeing  |
| 23    | Paul Ashley        | Port Clinton, Ohio  | Wildlife Photographing  |
| 24    | G. Fahey           | Girl Scout Leader<br>Toledo, Ohio                                     | Make arrangements for<br>Field Trip                                 |
| 26    | Dan Wheeler        | Cleveland, Ohio   | Information & Observation   |
| 26    | Frank Robinson     | Akron, Ohio   | " " "   |
| 26    | H. E. Wheeler      | Akron, Ohio   | " " "   |
| 26    | Larry Propelle     | Toledo, Ohio  | Toledo Naturalist Project   |
| 26    | Don Hill           | Toledo, Ohio  | Toledo Naturalist Project   |
| 26    | Mrs. W. Marlett    | Toledo, Ohio  | Toledo Naturalist Project   |
| 26    | Mrs. Eva Burchell  | Toledo, Ohio  | Toledo Naturalist Project   |
| 26    | William Taylor     | Toledo, Ohio  | Toledo Naturalist Project   |

B. Refuge Visitors (cont.)

| Date        | Name               | Affiliation or Address                             | Purpose   |
|-------------|--------------------|--|---|
| <b>Oct.</b> |                    |  |   |
| 28          | Mr.&Mrs.H.Kind     | Lancaster, Ohio                                    | Bird-watching   |
| 28          | Mrs. C. Reynolds   | Maumee, Ohio                                       | Refuge Visit  |
| 28          | Dr.&Mrs.M.E.Lester | Clinton, Iowa                                      | Wildlife Observation  |
| 28          | Mrs. W. Stengel    | Mt.Morris, Illinois                                | Information & Observation   |
| 29          | Rev. T.F.Cullen    | Akron, Ohio  | Observe Migration   |
| 29          | F. E. Vertch       | Toledo, Ohio                                       | Information & Observation   |
| 29          | Jim Monnie         | Minneapolis R.O.                                   | Inspection Tour   |
| 29          | J. Ellis           | Minneapolis R.O.                                   | Inspection Tour   |
| 30          | J. Findlay         | Harbor Hills & McCord<br>Girl Scout Representative | Information for arrangements<br>to Tour Refuge                              |
| 30          | G. J. Koester      | Oregon, Ohio                                       | Observe Migration   |
| 30          | D. W. Wollenbecker | Oregon, Ohio                                       | " "   |
| 30          | Don Dorf           | Toledo, Ohio                                       | " "   |
| 30          | James T. Bauer     | Toledo, Ohio                                       | " "   |
| 30          | Mrs. C. Cliffe     | Sylvania, Ohio                                     | Information & Observation   |
| 30          | Mrs. G. Elms       | Sylvania, Ohio                                     | " " "   |
| 30          | Mrs. R. Robinson   | Sylvania, Ohio                                     | " " "   |
| 31          | Kent Mulholland    | Boy Scout Troop 115<br>Leader, Orchard Lake, Mich. | Field Trip & Observe Water-<br>fowl Banding Operations<br>6 boys & 2 adults |
| <b>Nov.</b> |                    |  |   |
| 4           | Mrs. M. Backfisch  | Radio Station WGTE<br>Toledo, Ohio                 | Photograph Geese  |
| 4           | Mr. H. Backfisch   | Radio Station WGTE<br>Toledo, Ohio                 | To Film Canada Geese  |
| 4           | Keith Davis        | Radio Station WGTE<br>Toledo, Ohio                 | Information & Observation   |
| 5           | Ken Shanes         | Boy Scouts of America<br>Oak Harbor, Ohio          | To Make Arrangements for<br>Refuge Tours                                    |
| 5           | Mr.&Mrs. F.Dippel  | Toledo, Ohio                                       | Observe Migration   |
| 9           | Andrew Davis       | Wremont, Ohio                                      | Sight-seeing  |
| 10          | C.B.Swineford      | Detroit, Michigan                                  | Information & Observation   |
| 10          | Glenn Lau          | Oak Harbor, Ohio                                   | Observe Migration   |
| 10          | Mr.&Mrs.M.Anderson | Toledo Compass Club<br>Toledo, Ohio                | Arrange for Speaking en-<br>gagement on Wildlife                            |
| 13          | Thomas Ellis       | Cleveland, Ohio                                    | Information & Observation   |
| 13          | Rev.&Mrs.B.Ulele   | Cincinnati, Ohio                                   | " " "   |
| 13          | Mrs. B. VanNatta   | Port Clinton, Ohio                                 | " " "   |
| 13          | Emma Moenich       | Port Clinton, Ohio                                 | " " "   |
| 13          | F. T. Blyth        | Instructor-Penta County<br>Vocational High School  | Toured Refuge with 8 Senior<br>Students in party                            |
| 16          | Mrs. S. Ricci      | Toledo, Ohio                                       | Observe Migration   |
| 17          | Warren Thorp       | Toledo, Ohio                                       | Observe Migration   |
| 18          | P. J. Wilhelm      | Toledo, Ohio                                       | Information & Observation   |
| 19          | Keith Krau         | Avon, Ohio   | Photography   |
| 19          | Welton Hunter      | Corunna, Michigan                                  | Information & Observation   |
| 19          | Ed. Beckenmeier    | Bay Village, Ohio                                  | Observation & Information<br>For Return Trip With Group                     |

B. Refuge Visitors (cont.)

| Date  | Name               | Affiliation or Address                    | Purpose                    |
|-------|--------------------|---|----------------------------|
| ----- |                    |   |                            |
| Nov.  |                    |   |                            |
| 19    | Mr.&Mrs.O. Feber   | Bay Village, Ohio                         | Information & Observation  |
| 19    | Harold King        | Lorain, Ohio                              | Photograph Geese           |
| 19    | Ted King           | Lorain, Ohio                              | " "                        |
| 19    | Walter McGilliard  | Findlay, Ohio-B.S.F.&W                    | Courtesy Call              |
| 23    | Charles Holbrook   | U. S. Navy, Great Lakes, Ill.             | Visit                      |
| 23    | Sgt.R.Delagrange   | Ohio State Patrol, Sandusky               | Conduct Safety Meeting     |
| 24    | Richard Coon       | Division of Wildlife Serv. Sandusky, Ohio | Courtesy & Trap Starlings  |
| 24    | J. D. Lenardson    | Toledo Edison Company                     | Discuss Navarre Marsh      |
| 24    | E. F. Doen         | Toledo Edison Company                     | " " "                      |
| 25    | Jim Monnie         | Minneapolis, R. O.                        | " " "                      |
| 25    | Ed Stevenson       | Minneapolis, R. O.                        | " " "                      |
| 27    | Clarence Hartig    | Tescott, Kansas                           | Observation                |
| 27    | Charles Balduf     | Ottawa, Ohio                              | Information & Observation  |
| 27    | Thomas Truehart    | Peru, Indiana                             | Visit Refuge               |
| 30    | William Fucks      | U.S.G.M.A., Lansing, Mich.                | Courtesy Call              |
| Dec.  |                    |   |                            |
| 2     | Earl Wickert       | Toledo, Ohio                              | Information & Observation  |
| 2     | J. D. Brown        | Toledo, Ohio                              | Visit Refuge               |
| 2     | Mr.&Mrs.P.McIntyre | Sandusky, Ohio                            | Information & Observation  |
| 7     | Allan Hamilton     | Elmore, Ohio                              | Visit Refuge               |
| 9     | Charles Smith      | E. Claridon, Ohio                         | " "                        |
| 9     | John Witte         | Maumee, Ohio                              | Information & Observation  |
| 9     | Grace Pamell       | Toledo, Ohio                              | Visit Refuge & Observation |
| 9     | Lloyd Williams     | Genoa, Ohio                               | Tour Refuge                |
| 9     | Jim Earl           | Toledo, Ohio                              | Information & Visit Refuge |
| 10    | C. B. Wheeler      | Bay Village, Ohio                         | Visit Refuge               |

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Frequent vistors throughout the year were the following:

|                   |  |
|-------------------|--|
| Karl Bednarik     | Supervisor, Crane Creek Wildlife Experiment Station                            |
| Laurel VanCamp    | Naturalist, Crane Creek Wildlife Experiment Station                            |
| Jack Weeks        | Biologist, Crane Creek Wildlife Experiment Station                             |
| John W. Koerner   | Graduate Student, Ohio State University, Columbus, Ohio                        |
| Clyde Bolin       | Ohio State Game Protector  |
| John Staab        | Ohio State Game Protector  |
| Gary McLaughlin   | Ohio State Game Protector  |
| Staff Members     | Patuxent Research Center, Sandusky, Ohio                                       |
| Farm Cooperators  | Farming refuge property  |
| Refuge Trappers   | Trapping on refuge property  |
| Hunters           | Seeking information - boundaries of refuge etc.                                |
| Miscellaneous     |  |
| Permit Applicants | Residence within a radius of 25 miles for information and various applications |
| Numerous visitors | Information and to view waterfowl migration                                    |

C. Refuge Participation.

| Date | Name             | Nature of Participation (OFF REFUGE)   |
|------|------------------|--|
| 2-26 | Carroll          | Presented film "So Little Time" and talk to 28 members of East Toledo Club, Toledo, Ohio   |
| 2-26 | Manke            | Attended blackbird depredation control meeting, at Patuxent Wildlife Research Center, Sandusky, Ohio, with 40 in attendance  |
| 3-09 | Manke            | Presented slide talk on "Refuge Activities and Management" to 40 members of the Kiwanis Club, at Genoa, Ohio   |
| 3-12 | Manke<br>Carroll | Attended Eagle Scouts dinner at Commodore Perry Inn, Toledo, Ohio, with 500 in attendance  |
| 3-19 | Manke            | Presented slide talk to 12 Boy Scout leaders at St. John Lutheran Church, Port Clinton, Ohio   |
| 3-31 | Manke            | Presented slide talk to 70 students and teachers at Oak Harbor High School, Oak Harbor, Ohio   |
| 4-12 | Manke<br>Carroll | Attended and participated - meeting concerning water problems, arranged by Lucas County Engineers and interested persons, held at Jerusalem Twp. Hall, Oregon, Ohio, with 22 in attendance |
| 4-24 | Manke            | Presented bird slides and talk to 40 students at Clay High School, Oregon, Ohio  |
| 4-28 | Carroll          | Presented film "So Little Time" to 40 members of Fraternal Order of Police Associates, Bayview Park, Toledo, Ohio  |
| 5-06 | Manke            | Presented slide talk to 6 members of Eliston Brotherhood, Eliston, Ohio  |
| 5-07 | Manke            | Attended U. S. Government Property Protection meeting, Cleveland, Ohio   |
| 5-13 | Carroll          | Presented film "So Little Time" to 20 members of Exchange Club, at Norwood Inn, Toledo, Ohio   |
| 6-07 | Carroll          | Presented "So Little Time" to 25 members of the Lake Erie Wildfowlers at Oregon, Ohio  |
| 6-16 | Carroll          | Presented "So Little Time" to 22 members of East Toledo High Twelve Club, Toledo, Ohio   |

C. Refuge Participation (cont.)

| Date  | Name             | Nature of Participation (OFF REFUGE)   |
|-------|------------------|--|
| 9-13  | Carroll          | Presented talk on "Regulations" to 65 members of the Lake Erie Waterfowlers, Oregon, Ohio  |
| 9-13  | Manke<br>Carroll | Manager Manke participated in presenting "Waterfowl Identification" sponsored by the Wolf Creek Sportsmen's Club, at Jerusalem Twp. Hall, Oregon, Ohio - Assistant Manager Carroll also attended, there were 250 members and interested people in attendance |
| 10-14 | Carroll          | Presented slide talk to 40 students at Ohio State University, Columbus, Ohio   |
| 11-20 | Carroll          | Presented film "So Little Time" to 135 Cub Scouts and parents at St. Patricks of Heatherdown, Toledo, Ohio   |
| 12-01 | Carroll          | Presented slide talk to 30 government class students at Sylvania High School, Sylvania, Ohio   |

| Date    | Name                 | Nature of Participation (ON REFUGE)  |
|---------|----------------------|--|
| 2-17    | Manke                | Conducted refuge tour for 5 members of Boy Scout Troop 384, and their leader from Port Clinton, Ohio   |
| 3-21    | Manke                | Conducted Swan Hike on refuge for 35 members of the Audubon Society, Springfield, Ohio   |
| 3-22    | Manke                | Conducted Swan Hike on refuge for 40 members of the Toledo Naturalists Society, Toledo, Ohio   |
| 3-28    | Manke                | Conducted refuge tour and talk on "Refuge Activities and Management" to 20 members of the Kirtland Bird Club, Cleveland, Ohio - and 40 members of the Washtenow Audubon Society, Ann Arbor, Michigan |
| 4-13/18 | All Staff<br>Members | Participated in "Open House" activities - tours and talks were conducted with film "So Little Time" presented and refreshments served to the general public - 200 attended                           |

C. Refuge Participation (cont.)

| Date  | Name             | Nature of Participation (ON REFUGE)   |
|-------|------------------|---|
| 4-17  | Manke<br>Carroll | Conducted nature study hike of refuge and presented film "So Little Time" for 53 third grade students of J. C. Waters School, Oak Harbor, Ohio  |
| 4-25  | Manke            | Conducted nature tour of refuge and talk on "Management and Activities", then presented film "So Little Time" to 12 college students and instructor, from Akron University, Akron, Ohio - 2 bird-watchers were also in attendance |
| 4-28  | Carroll          | Conducted tour of Refuge and presented movie "So Little Time" to 10 members of Cub Scout Pack 342 and 2 Den Mothers from Williston, Ohio  |
| 4-29  | Manke<br>Carroll | Conducted nature study hike of refuge and presented "So Little Time" to 33 third grade students and teachers from Graytown School, Graytown, Ohio   |
| 5-1/3 | Manke            | Conducted 10 senior students and 2 professors from Eastern Kentucky University, Richmond, Kentucky, on refuge tour and presented talk on "Refuge Problems and Management" with a question and answer session                      |
| 5-07  | Manke            | Conducted tour of refuge and question and answer discussion with 30 students and 2 teachers from Clay High School, Oregon, Ohio   |
| 5-08  | Manke            | Conducted tour of refuge and question and answer discussion with 28 students and 2 teachers from Clay High School, Oregon, Ohio   |
| 5-08  | Manke            | Conducted afternoon tour of refuge and talk for 11 Wildlife Management Students and their professor from Ohio State University, Columbus, Ohio  |
| 5-13  | Manke            | Escorted 16 members of the Christ Methodist Church, Women's Club, Oregon, Ohio, on a nature tour, then presented slide talk and viewed film "So Little Time"  |
| 5-25  | Manke            | Conducted nature hike for 9 Cub Scouts, Pack 342 and Den Mother from Williston, Ohio  |

C. Refuge Participation (cont.)

| Date   | Name              | Nature of Participation (ON REFUGE)  |
|--------|-------------------|--|
| 6-15   | Manke             | Conducted tour of refuge and discussed plans for "Fall Field Day" with 9 members of the Ottawa County Board of Education and Superintendent of County Schools  |
| 7-13   | Holbrook          | Conducted tour of Darby Unit for 10 members of the Oak Harbor 4-H Club, Oak Harbor, Ohio   |
| 9-21   | All Staff Members | Conducted refuge tours and at 6 designated stops - refuge and state personnel explained various phases of refuge and wildlife to 800 5th grade students and teachers from the Ottawa County School District          |
| 9-30   | Carroll           | Escorted 12 Girl Scout Leaders from the Toledo Area on tour of the refuge then presented talk and film "So Little Time"  |
| 10-01  | Manke             | Conducted nature study tour of refuge and presented film "So Little Time" for 47 members of seventh grade science class and 3 adults from New Reigle School, New Reigle, Ohio  |
| 10-05  | Carroll           | Conducted nature hike and presented film "So Little Time" for 15 members of Boy Scout Troop 997, and 3 adult leaders from Oregon, Ohio   |
| 10-09  | Manke             | Conducted 17 young men and 2 instructors from Muskingum Technical School, New Concord, Ohio, on tour of refuge and had a question and answer session.  |
| 10-12  | Manke<br>Carroll  | Conducted refuge nature study hike and presented film "So Little Time" for 90 third grade students and 7 adults from J. C. Waters School, Oak Harbor, Ohio   |
| 10-20  | Manke             | Conducted refuge tour and presented film to 46 students and 3 adults from Perrysburg High School, Perrysburg, Ohio   |
| 10-20- | Manke             | Conducted afternoon refuge tour and presented film "So Little Time" for 15 students and 3 adults from Riverview School for retarded children, Oak Harbor, Ohio - Ottawa Job Corps Center caretakers also viewed film |

C. Refuge Participation (cont.)

| Date  | Name    | Nature of Participation (ON REFUGE)  |
|-------|---------|--|
| 10-24 | Carroll | Conducted tour of refuge and presented "So Little Time" for 23 members of Girl Scout Troop 201, Toledo, Ohio                                     |
| 10-30 | Carroll | Conducted tour of refuge and presented film for 19 members of Girl Scout Troop 452, Toledo, Ohio   |
| 10-31 | Carroll | Conducted nature study hike and talk, then presented "So Little Time" for 6 members and 2 leaders of Boy Scout Troop 115, Orchard Lake, Michigan |
| 11-13 | Carroll | Conducted 7 students and instructor on refuge tour and talk, from Penta County Vocational High School, Perrysburg, Ohio                          |
| 11-17 | Carroll | Conducted nature hike for 65 Cub Scout and their parents from Port Clinton, Ohio, then presented the film "So Little Time"                       |

Summary of Programs Presented

| Presented By | <u>Off-site</u>    |            | <u>On-site</u>     |            | <u>Total</u>       |            |
|--------------|--------------------|------------|--------------------|------------|--------------------|------------|
|              | Number<br>Programs | Attendance | Number<br>Programs | Attendance | Number<br>Programs | Attendance |
| Manke *      | 6                  | 200        | 17                 | 391        | 23                 | 591        |
| Carroll      | 10                 | 470        | 7                  | 109        | 17                 | 579        |
| Holbrook     | -                  | -          | 1                  | 10         | 1                  | 10         |
| Staff        | 1                  | 250        | 5                  | 1183       | 6                  | 1433       |
| Total        | 17                 | 920        | 30                 | 1693       | 47                 | 2613       |

\*  $\frac{1}{2}$  hour TV program presented on one Toledo Station (WGTE)  
with a 30 mile range of transmission

#### D. Hunting.

No hunting was permitted on the refuge. On the adjacent state owned Magee Marsh controlled hunting area, 681 hunters bagged 1,454 ducks in 23 shooting days. Comparison with previous years are shown in Table IV. Hunting success was good on several "leased" areas near the refuge, and moderately good on the state owned Metzger Marsh which adjoins the refuge. An estimated 10,000 ducks were taken in the vicinity of the refuge. Goose shooting is prohibited on Magee and Metzger Marshes and about 1,000 acres of privately owned land until the goose propagation project is terminated.

Table IV - Magee Marsh Controlled Hunt 1965-1970

| Year | Total<br>No. Hunters | Total<br>Ducks Harvested | Success Ratio<br>Birds |
|------|----------------------|--------------------------|------------------------|
| 1965 | 465                  | 641                      | 1.37                   |
| 1966 | 525                  | 971                      | 1.85                   |
| 1967 | 637                  | 1,556                    | 2.44                   |
| 1968 | 391                  | 791                      | 2.00                   |
| 1969 | 589                  | 1,031                    | 1.75                   |
| 1970 | 681                  | 1,454                    | 2.13                   |

This was the first year for a mandatory report of all geese taken within a 10-mile perimeter of a state or federal water-fowl management area (state regulation). Reports show 6,721 hunters took 1,275 geese in the Ottawa Refuge Zone. Even though this regulation was well publicized, many hunters seemed unaware of it, and others were unsure of the boundary. Consequently, the goose-harvest from the Ottawa Refuge flock is thought to be at least 1,500, which would just about equal the total of the other three goose-zoned areas in the state. Reports show 11,202 hunters bagged 2,985 geese in the four zoned areas within the State. Aerial counts showed that Ottawa Refuge usually held just about half of all the geese in Ohio.

# WATERFOWL HUNTING AREA

# OTTAWA — CRANE CREEK

# PERMIT REQUIRED

LAKE ERIE



E. Violations.

| Date   | Person<br>Apprehended | Apprehending<br>Officers | Violation                  | Disposition                   |
|--|-----------------------|--------------------------|----------------------------|-------------------------------|
| 1-26-70  | Ronald Curtis         | Staab                    | Stream litter              | \$25.00 fine<br>\$ 8.00 costs |
| 1-28-70  | George Myrice         | Staab                    | Stream litter              | \$25.00 fine<br>\$ 8.00 costs |
| 1-31-70  | Robert Seimet         | Staab-VanCamp            | Hunting trespass           | \$25.00 fine<br>\$ 8.00 costs |
| 7-08-70  | Leonard Poston        | Staab                    | Fishing without<br>license | \$15.00 fine<br>\$ 8.00 costs |
| 7-08-70  | Gary Marr             | Staab                    | Fishing without<br>license | \$15.00 fine<br>\$ 8.00 costs |
| 10-30-70   | James Derr            | Branzell-Manke           | Hunting over bait          | \$50.00 fine<br>\$ 9.00 costs |
| 10-30-70   | James Sickles         | Branzell-Manke           | Hunting over bait          | \$50.00 fine<br>\$ 9.00 costs |
| 10-30-70   | Earl Hutson           | Branzell-Manke           | Hunting over bait          | \$50.00 fine<br>\$ 9.00 costs |
| 10-30-70   | Robert Kandik         | Branzell-Manke           | Hunting over bait          | \$50.00 fine<br>\$ 9.00 costs |
| 11-05-70   | Stephen Budzina       | Branzell-Bolin           | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-05-70   | Patrick Hughes        | Branzell-Bolin           | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-07-70   | Edward Ballog         | Bolin-McLaughlin         | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-07-70   | Robert Peterka        | Bolin-McLaughlin         | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-07-70   | Daniel Valliquette    | Bolin-McLaughlin         | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-07-70   | William Shupe         | Bolin-McLaughlin         | Hunting trespass           | \$15.00 fine<br>\$ 8.00 costs |
| 11-07-70   | Lawrence Kahn         | Bolin-Holbrook           | Hunting trespass           | *                             |
| 11-07-70   | James Cook            | Bolin-Holbrook           | Hunting trespass           | *                             |
| 11-07-70   | Daryl McCandlish      | Bolin-Holbrook           | Hunting trespass           | *                             |
| *Juveniles - License suspended to end of waterfowl season* |                       |                          |                            |                               |
| 11-18-70   | Joseph Gallagher      | Staab                    | Hunting trespass           | \$25.00 fine<br>\$ 8.00 costs |
| 12-05-70   | James Ruchie          | Staab-VanCamp            | Hunting trespass           | \$25.00 fine<br>\$ 8.00 costs |
| 12-05-70   | Ernest Woody          | Staab-VanCamp            | Hunting trespass           | \$25.00 fine<br>\$ 8.00 costs |

|                     |         |                    |         |
|---------------------|---------|--------------------|---------|
| Clyde L. Bolin      | - USGMA | Gary L. McLaughlin | - SGP   |
| Richard C. Branzell | - USGMA | John A. Staab      | - SGP   |
| Alfred O. Manke     | - USRMA | Wood Holbrook      | - USRMA |

## F. Safety.

Another year without a lost time accident. Hallelujah! As of December 31, 1970, this station had operated without a lost time accident for 3,363 days; since its inception. Future plans call for more of the same only in stronger and longer doses vigorously injected into all complacencies. Protective clothing and equipment acquired: safety shoes for all but the clerk, and safety glasses for all who wear spectacles except the clerk. The clerk was excluded because her entire duty time is in the office.

Safety meetings included the following:

1. January - Small Equipment Care - Mr. Radsick, Chairman. A movie entitled "Care of Small Hand Tools" was presented, and electrical power was discussed. A suggestion was made to map the underground electric lines as a future safety precaution.
2. March - Tort Claims - Mrs. Pepas, Chairwoman. Several actual cases were discussed. The meeting was closed with this rule: An employer is liable for wrongful acts of his employee - Only when such acts are done within the scope of employment. However, an employee is liable for his own wrongful acts; regardless of whether his employer may also be liable for such acts.
3. April - Electricity - Mr. Holbrook, Chairman. A movie entitled "Electric Power and Common Sense" was presented. discussion centered around the dangers of extension cords. A map of the underground electric line was furnished by the Toledo Edison Company. A half-dozen extension cords supplying power to various office equipment were "eliminated" immediately upon adjournment.
4. May - Defensive Driving - as part of mandatory refresher course. A movie entitled "Anatomy of An Accident" was presented and reviewed.
5. July - Good Housekeeping - Mr. Radsick, Chairman. The movies entitled "Safety at Work", "To Fall or Not To Fall", "No one Else Can Do It For You", and "Personal Side of Safety", were presented and reviewed.
6. July - Defensive Driving - as part of mandatory refresher course. Regional Office slides "Adverse Weather Driving" were presented.
7. August - Off The Job Safety - Mrs. Pepas, Chairwoman. The movies "How To Have An Accident In The Home", "Toddler's Hours of Hazard", and "Slips and Falls", were presented.

8. August - Defensive Driving - as part of mandatory refresher course. Regional Office slides "Perception of Driving Hazards" (Part II, Limited Access Highways) were presented.
9. September - Safety Consciousness - Mr. Manke, Chairman. Read Mr. Meyer's Memorandum, "Safeguarding Government Equipment and Property", took and discussed "Boat and Water Safety Quiz", furnished by Minnesota Conservation Department.
10. October - Fire Prevention - Mr. Holbrook, Chairman. Furnaces, electrical wiring, fire-fighting tools and fire extinguishers checked. "What to do in case of fire" was discussed.
11. October - Defensive Driving - as part of mandatory refresher course. Film entitled "Final Factor" was presented.
12. November - First Aid - Mr. Carroll, Chairman. Sgt. Richard Delagrange, Ohio State Patrol, led the discussion and presented the film "The Third Killer."
13. November - Defensive Driving - as part of mandatory refresher course. Regional Office slides "Perception of Driving Hazards" (Part III, Highways and Byways) were presented.
14. December - Lifting Safely - Mr. Dornbusch, Chairman. Films entitled "Facts about Backs" and "Lifting", were presented.
15. December - Defensive Driving - as part of mandatory refresher course. The film "Safety Facts About Crossing Tracks" was presented.
16. December - Defensive Driving - as part of mandatory refresher course. Regional Office slides "Perception of Driving Hazards" (Part I, Urban) were presented.

## VII. OTHER ITEMS

### A. Items of Interest.

#### 1. Land Acquisitions.

The refuge moved 80 acres closer to complete acquisition this past year. This was a key tract to acquire. It borders the entrance road and will display wildlife immediately to even the most casual refuge visitor. It was needed to complete the nature trail. It provides a good residence in close proximity to headquarters, and a good, protectable barn as well. Further, it provides a climate favorable for purchasing the

remaining 250 acres needed to complete acquisition. To date, 4,573 acres have been acquired at a cost of \$2,212,145.68.

2. Navarre - Darby Land Exchange.

Construction of the nuclear power station by the Toledo Edison Company began at Navarre Marsh. Many concerned persons oppose the station and presented two possible snags. First, the Sierra Club filed suit against the Secretary of the Interior and the power companies involved, challenging the legality of the land exchange, that transferred Navarre Marsh from the Bureau to the Toledo Edison Company. Second, three interveners opposed licensing the station. The public hearing held by the AEC to determine whether or not to license the station began December 8th, and is still in session. The suit challenging the legality of the land exchange is pending. These possible snags have not deterred negotiations and planning between the Bureau and Toledo Edison Company concerning desired facilities to manage the marsh for wildlife.

3. Job Corps.

"The word came down" that all personnel, personal property and buildings of the closed center would be gone as of June 30, 1970. About 25 van loads and 20 low-bed loads did remove all equipment, but the buildings and five-man guard force are still with us. The "operating engineers", a prime contractor for the Department of Labor, got all of the heavy equipment and shop equipment "goodies." We got the privilege of being custodian of what is left.

4. Building Disposal and Clean-up.

Twenty buildings were declared excess and placed on bid sales. Nine were sold for a total of \$500.57. All of these buildings had been acquired with the properties and ranged from chicken coops to barns. Almost all were in very poor condition. All purchasers but one did a good clean-up job. Two buildings that had no bids placed against them have been destroyed by the local volunteer fire department. The other nine will fall to the same fate. The refuge had received a justifiable complaint about the appearances of a few of the buildings along State Route 2.

5. Refuge Receipts Sharing Act.

Checks of \$11,521.67 and \$16,728.67 were delivered to Ottawa and Lucas Counties, respectively.

#### 6. West Sister Island Trash Clean-up.

About 25 Boy Scouts and Leaders from the Toledo Area removed some 15 barrels of trash from the island. Owens-Illinois Company furnished the containers and truck to cart the trash to an authorized dumping area. Scouters with boats furnished the transportation to and from the island.

#### 7. Sportsmans Work Days.

Again this year a one-in-a-million Sportsmans Club did something more than gripe and/or reminisce about the good old days. Members of the Lake Erie Waterfowlers Association, donated six Saturdays (one per month) for "work days" on the refuge. They serviced and renovated wood duck boxes, assembled and placed goose-nesting platforms, chopped brush, and picked-up trash. Their offer is "they will do anything we want them to do". The work-force averages about six strong.

#### 8. Bird List.

Three of the top "bird-brains" in the area were enlisted to help prepare a refuge bird list. Mr. Lou Campbell, Outdoor News Writer and Author of the book "Birds of Lucas County" is very highly qualified. He has the longest and most complete bird migration and nesting records in the area. Mr. Laurel VanCamp, long-time State Game Protector and Wildlife Observer par excellence, is also highly qualified. He has banded more birds than just about any other person in the country, and knows every nook, cranny and bird in the area. He was the recipient of a "Nash" award a few years ago. Mr. Bob Crofts, qualifies as a "professional bird-watcher". He has toured many parts of the world just to observe the bird-life. He leads a group each month on a refuge bird count. He works only enough to afford his avocation and never lets work interfere with his birding. These three men donated their time and talents for two and a half days to review, refine and authenticate the list. This is greatly appreciated and greatly increases the confidence level of the list. Hopefully the list will be off the press in time for the spring onslaught of birders.

#### 9. Break-in and Theft.

Since this is the "give and take" section, it seems proper to report a "take". Thieves broke into headquarters August 28th or 29th, and took an electric typewriter, an electric adding machine, a spotting scope, and two slide projectors, having a total value of nearly \$1,000.00. This act seemed to culminate a series of vandalistic activities. For several months prior to the headquarters episode, a number of vacant

or little used buildings had been forceably entered and/or vandalized, but nothing of consequential value had been taken. The F. B. I. "lifted" many finger prints and the theft is still under investigation, but none of the stolen items have been recovered.

#### 10. Tragedy.

The first death on the refuge occurred May 23d, when Mr. Bourn was drowned. Mr. Bourn and a companion, Mr. Lockett; entered the refuge a little after mid-night to try out a newly acquired boat and motor, and to fish. Gasoline spilled in the boat while fueling, the motor was ignited by an open-flame gas lantern. The fire and a subsequent explosion (probably the lantern) mandated immediate evacuation of the boat. Mr. Bourn, who could not swim and had no life jacket, drowned in the "one hole" in Crane Creek, deeper than four feet. The whole venture was a tragedy, A real for the "want-of-a-nail" chain of events. First, they broke a cable strung across the road to prevent vehicle access, in order to drive to the launching site. Second, they were completely unfamiliar with the newly acquired equipment, yet proceeded to attempt a shake-down cruise in the dark. Third, they were sorely illequipped. Neither had a life jacket or a flashlight. They used two pressurized mantle-type lanterns in the boat for light. They transported the gasoline for the motor in a five-gallon, wide-mouthed, "jeep" can - And for lack of a funnel, used a bent two-pound coffee can to transfer the gasoline from the five-gallon container to the motor. Small wonder that an accident occurred. The miracle of the night would have been if the accident had not occurred. "Poetic justice" is often much more harsh than "Man-made" justice. Use of boats on Crane Creek is prohibited.

#### 11. Unusual Trespass.

A 25-ton, 46-foot cruiser with 14 aboard tried to climb the dike at Cedar Point. It was travelling fast enough to lift more than half its length out of the water. Passengers were thrown to the deck, but no injuries were suffered. The cruiser was hung on the rocks for about 18 hours before it could be pulled free. No damage was done to the dike, and no citation was issued. The "bruiser-cruiser" kept its rear-end in the water so it was interpreted as still "being legal."

#### 12. Training and Information.

Assistant Manager Carroll and Maintenceman Holbrook successfully completed the Law Enforcement Workshop held at Crab Orchard Refuge in May. Manager Manke attended a "Systems

Approach\* workshop at St.Louis in August. Manager Manke and Mr. Thomas Blum, Earth Science teacher from Genoa Junior High School, participated in the Environmental Education workshop, held at Sherburne Refuge in October under the auspices of the Environmental Science Center of Golden Valley, Minnesota. Manager Manke attended the "Quality of the Environment" conference at Ohio State University in November. Clerk Pepas attended the "Payroll Training Workshop" at the Regional Office in January.

### 13. The Living End.

A young married couple was apprehended after stealing a metal cage from the refuge. They needed it for their "pet monkey." They also have a small baby. They evidently had plenty of time to "case-the-joint" because the cage had been in a rather obscure place in a rather obscure location on the refuge. To the question, "What is your occupation," the 19-year old male - perched atop the hood of his car with bottle of beer in hand, seemed totally unabashed as he answered, "welfare recipient."

### 14. Credits.

Assistant Manager Carroll: Weather, entire Wildlife Section, Cultivated Crops, Control of Vegetation, Recreational Uses, and all Narrative Report Forms.

Clerk Pepas: Refuge Visitors, Participation, mounting the photos and typing the report.

Manager Manke: The remainder.



WELCOME - as was  
8-68 AOM



WELCOME - as is  
70-16-22 JMC



Entrance road tripled in width, decupled in smooth. Property to right of ditch on right side of picture aquired in 1970. 70-16-12 JMC



Welcoming Committee, at times they process the entrance road slicker than owls. 70-16-16 JMC



Bank erosion at Darby threatened the residence. -Donated by Wood Holbrook-



Correction strip.

70-15-15 JMC



Vans ready to roll with the "goodies"  
from the closed Job Corps Center.  
70-15-04 JMC



"Cat" ready to roll with "Safety".  
70-19-16 JMC



Boats bring it, and boats haul it  
away. West Sister Island Clean-up  
by scouts. 70-13-09 AOM



And some boats come to stay. "Bruiser  
Cruiser" climbing Cedar Point Dike.  
70-19-06 JMC



JUL 70

The forbidden trail.

70-06-05 JMC



JUL 70

And the end of the trail. Volunteer Firemen drag for the body as the ill-fated boat bears witness of tragedy.

70-06-03 JMC



Where the Canada Geese nest in the  
Kenaje River flowage. Ontario, Canada  
5-3-69 -Donated by: Harry Lamsden-



And how they nest.  
5-22-68 -Donated by Harry Lamsden-



Girl Scouts authenticate their visit.  
10-30-70 -Donated by Mrs.E.F.Robinson-



To hike on the refuge in late autumn.  
Assistant Manager Carroll "leads?"  
the troops.  
10-30-70 -Donated by Mrs.E.F.Robinson-



Some of the 850 students and teachers of Ottawa County begin their "Conservation Field Day" on the refuge. Manager Manke explaining the refuge.

70-18-1 JEP



Sponsored by the Soil Conservation Service "soil conservation & cropping is the next stop."

70-18-1 AOM



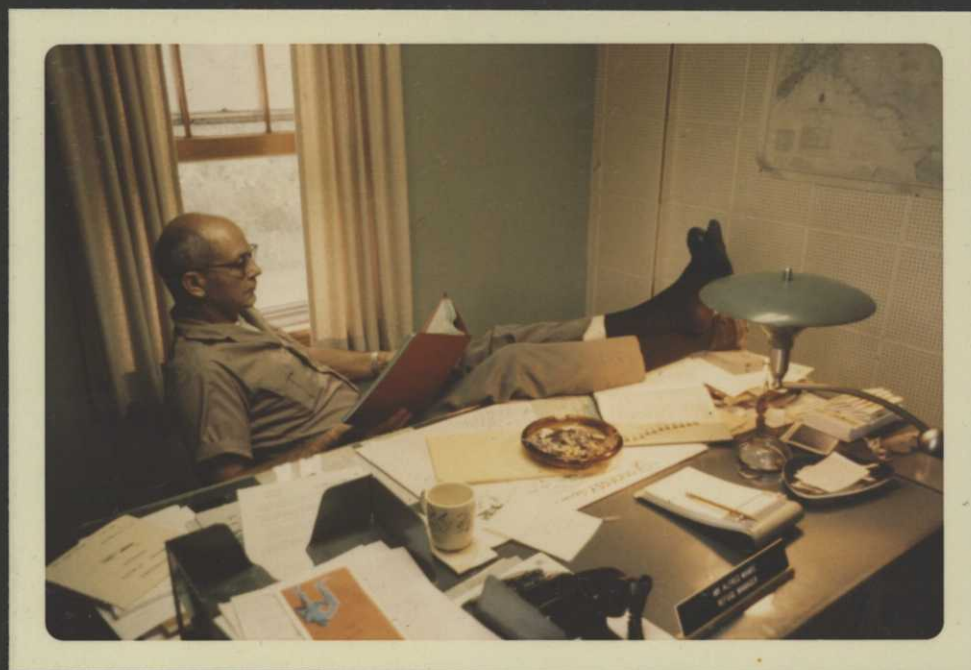
A look at the marsh and the values thereof.

70-18-3 AOM



A stop in the woods & all eyes turn to the eagle's nest except the County Superintendent's (dark suit & hat) who watched his charges like a hawk.

70-18-5 AOM



An old approach to a new system. A  
jug of coffee, a tray of butts, a bat-  
tered lexicon, and thou oh scroll of  
the RBU. 70-19-5 JMC

SIGNATURE PAGE

Submitted by:

Alfred O. Manke  
Alfred O. Manke

Date: March 4, 1971

Refuge Manager

Approved Regional Office:

Date: MAR 09 1971

James B. Monnie  
(Signature)

48814  
Regional Refuge Supervisor

WATERFOWL

REFUGE Ottawa - Cedar Point - Darby

MONTHS OF January 1 TO May 1, 19 70

| (1)<br>Species         | (2)<br>Weeks of reporting period |                   |                   |                   |                   |                   |                   |                   |                   |                    |
|------------------------|----------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
|                        | 1/03 <sub>1</sub>                | 1/10 <sub>2</sub> | 1/17 <sub>3</sub> | 1/24 <sub>4</sub> | 1/31 <sub>5</sub> | 2/07 <sub>6</sub> | 2/14 <sub>7</sub> | 2/21 <sub>8</sub> | 2/28 <sub>9</sub> | 3/07 <sub>10</sub> |
| Swans:                 |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Whistling Trumpeter    |                                  |                   |                   |                   |                   |                   |                   |                   | 18                | 175                |
| Geese:                 |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Canada                 | 1000                             | 1000              | 400               | 800               | 1200              | 1200              | 2500              | 3000              | 3200              | 3200               |
| Cackling               |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Brant                  |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| White-fronted          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Snow                   |                                  | 1                 |                   |                   | 2                 |                   |                   |                   | 3                 |                    |
| Blue                   |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Other                  |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Ducks:                 |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Mallard                | 1200                             | 250               | 70                | 70                | 600               | 600               | 600               | 600               | 4500              | 9000               |
| Black                  | 400                              | 150               | 30                | 30                | 100               | 100               | 150               | 200               | 7000              | 11200              |
| Gadwall                |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Baldpate               |                                  |                   |                   |                   |                   |                   |                   |                   | 10                | 90                 |
| Pintail                |                                  |                   |                   |                   | 5                 | 5                 | 30                | 30                | 50                | 150                |
| Green-winged teal      |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Blue-winged teal       |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Cinnamon teal          |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Shoveler               |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Wood                   |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Redhead                |                                  |                   |                   |                   |                   |                   |                   |                   | 10                | 80                 |
| Ring-necked            |                                  |                   |                   |                   |                   |                   |                   |                   |                   |                    |
| Canvasback             |                                  |                   |                   |                   | 50                | 50                |                   |                   |                   |                    |
| Scaup                  |                                  |                   |                   |                   |                   |                   | 25                | 25                | 25                |                    |
| Goldeneye              |                                  |                   |                   |                   | 75                | 75                | 25                | 25                | 25                | 250                |
| Bufflehead             |                                  |                   |                   |                   | 5                 | 5                 | 5                 |                   |                   |                    |
| Ruddy                  |                                  |                   |                   |                   |                   |                   |                   |                   |                   | 30                 |
| Other Common Merganser |                                  |                   |                   |                   | 500               | 500               | 500               | 300               | 175               | 200                |
| Hooded Merganser       |                                  | 1                 |                   |                   | 1                 |                   |                   |                   |                   |                    |
| Old Squaw              |                                  |                   |                   |                   | 2                 |                   |                   |                   |                   |                    |
| Coot:                  |                                  | 4                 |                   |                   |                   |                   |                   |                   |                   |                    |

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WATERFOWL  
 (Continuation Sheet)

REFUGE Ottawa - Cedar Point - Darby

MONTHS OF January 1 TO May 1, 1970

| (1)<br>Species                    | (2)<br>Weeks of reporting period |            |            |            |                |            |            |            | (3)<br>Estimated<br>waterfowl<br>days use | (4)<br>Production<br>Broods: Estimated<br>seen : total |
|-----------------------------------|----------------------------------|------------|------------|------------|----------------|------------|------------|------------|---|--|
|                                   | 3/14<br>11                       | 3/21<br>12 | 3/28<br>13 | 4/04<br>14 | 4/11<br>15     | 4/18<br>16 | 4/25<br>17 | 4/30<br>18 |   |  |
| <b>Swans:</b>                     |                                  |            |            |            |                |            |            |            |   |  |
| Whistling                         | 175                              | 1000       | 1000       | 1000       | 400            | 25         |            |            | 26,551                                    |  |
| Trumpeter                         |                                  |            |            |            |                |            |            |            |   |  |
| <b>Geese:</b>                     |                                  |            |            |            |                |            |            |            |   |  |
| Canada                            | 5000                             | 4000       | 4000       | 4000       | 1000           | 500        | 50         | 50         | 248,600                                   |  |
| Cackling                          |                                  |            |            |            |                |            |            |            |   |  |
| Brant                             |                                  |            |            |            |                |            |            |            |   |  |
| White-fronted                     |                                  |            |            |            |                |            |            |            |   |  |
| Snow                              |                                  |            |            |            |                |            |            |            | 42  |  |
| Blue                              |                                  |            |            |            |                |            |            |            | 21  |  |
| <del>Other</del> Bar-headed Goose |                                  |            | 1          |            |                |            |            |            | 7   |  |
| <b>Ducks:</b>                     |                                  |            |            |            |                |            |            |            |   |  |
| Mallard                           | 9500                             | 11000      | 6500       | 3600       | 800            | 425        | 425        | 425        | 345,505                                   |  |
| Black                             | 14280                            | 8315       | 4250       | 2525       | 300            | 180        | 185        | 185        | 345,090                                   |  |
| Gadwall                           |                                  |            | 400        | 1800       | 200            | 50         |            |            | 17,150                                    |  |
| Baldpate                          | 90                               | 700        | 2700       | 2700       | 150            | 200        | 200        | 100        | 48,380                                    |  |
| Pintail                           | 500                              | 800        | 1300       | 600        | 450            | 75         | 30         | 30         | 28,325                                    |  |
| Green-winged teal                 |                                  |            | 525        | 600        | 650            | 850        | 100        | 75         | 19,450                                    |  |
| Blue-winged teal                  |                                  | 30         | 600        | 700        | 700            | 1000       | 830        | 800        | 31,020                                    |  |
| Cinnamon teal                     |                                  |            |            |            |                |            |            |            |   |  |
| Shoveler                          | 25                               | 250        | 1000       | 200        | 100            | 75         | 75         | 75         | 12,450                                    |  |
| Wood                              |                                  |            | 200        | 400        | 450            | 200        | 130        | 130        | 10,310                                    |  |
| Redhead                           | 80                               | 750        | 350        | 200        | 100            | 100        |            |            | 7,490                                     |  |
| Ring-necked                       |                                  | 150        | 500        | 350        | 200            | 150        | 40         | 100        | 10,230                                    |  |
| Canvasback                        |                                  | 40         | 350        | 150        | 50             | 20         |            |            | 4,970                                     |  |
| Scaup                             |                                  | 40         | 400        | 300        | 200            | 200        | 150        | 100        | 10,055                                    |  |
| Goldeneye                         |                                  |            |            |            |                | 25         | 80         |            | 4,060                                     |  |
| Bufflehead                        |                                  |            | 300        | 100        | 50             | 50         | 35         | 25         | 3,975                                     |  |
| Ruddy                             | 25                               | 25         | 25         | 175        | 200            | 150        | 115        | 100        | 5,715                                     |  |
| <del>Other</del> Common Merganser | 500                              | 500        | 600        | 600        | 400            | 250        | 205        | 200        | 37,610                                    |  |
| <del>Other</del> Hooded Merganser |                                  |            |            |            |                |            |            |            | 14  |  |
| Old Squaw                         |                                  |            |            |            |                |            |            |            | 14  |  |
| <b>Coots:</b>                     |                                  | 100        | 3500       | 5000       | 5000<br>(over) | 4500       | 4250       | 4000       | 184,478                                   |  |

|       | (5)<br>Total Days Use | (6)<br>Peak Number | (7)<br>Total Production |
|-------|-----------------------|--------------------|-------------------------|
| Swans | 26,551                | 1,000              |                         |
| Geese | 248,670               | 5,000              |                         |
| Ducks | 941,813               | 25,000             |                         |
| Coots | 184,478               | 5,000              |                         |

# SUMMARY

Principal feeding areas Available food minimal due to July 1970 storm-flood. Waterfowl feed on chopped sorghum and corn.

Principal nesting areas

Reported by James M. Carroll, Jr., Assistant Refuge Manager

## INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

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Form -1

(Rev. March 1953)

## WATERFOWL

REFUGE Ottawa - Cedar Point - DarbyMONTHS OF May 1 TO Sept. 1, 19 70

| (1)<br>Species    | (2)<br>Weeks of reporting period |                  |                   |                   |                   |                  |                   |                   |                   |                   |
|-------------------|----------------------------------|------------------|-------------------|-------------------|-------------------|------------------|-------------------|-------------------|-------------------|-------------------|
|                   | 5/2 <sup>1</sup>                 | 5/9 <sup>2</sup> | 5/16 <sup>3</sup> | 5/23 <sup>4</sup> | 5/30 <sup>5</sup> | 6/6 <sup>6</sup> | 6/13 <sup>7</sup> | 6/20 <sup>8</sup> | 6/27 <sup>9</sup> | 7/4 <sup>10</sup> |
| Swans:            |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Whistling         |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Trumpeter         |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Geese:            |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Canada            | 775                              | 775              | 775               | 775               | 775               | 775              | 775               | 775               | 775               | 775               |
| Cackling          |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Brant             |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| White-fronted     |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Snow              |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Blue              |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Other             |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Total....         | 775                              | 775              | 775               | 775               | 775               | 775              | 775               | 775               | 775               | 775               |
| Ducks:            |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Mallard           | 125                              | 125              | 125               | 125               | 550               | 800              | 1200              | 1500              | 1500              | 1500              |
| Black             | 185                              | 40               | 40                | 75                | 200               | 300              | 500               | 500               | 500               | 500               |
| Gadwall           | 15                               | 30               | 30                | 30                | 30                | 30               | 30                | 30                | 30                | 30                |
| Baldpate          | 100                              | 65               | 60                | 60                | 60                |                  |                   |                   |                   |                   |
| Pintail           | 30                               |                  |                   |                   |                   | 10               | 30                | 30                | 30                | 30                |
| Green-winged teal | 75                               |                  |                   |                   |                   | 15               | 15                | 15                | 90                | 90                |
| Blue-winged teal  | 800                              | 800              | 750               | 750               | 830               | 830              | 830               | 830               | 830               | 830               |
| Cinnamon teal     |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Shoveler          | 75                               | 75               | 30                | 30                | 30                | 15               | 15                | 15                | 15                | 15                |
| Wood              | 130                              | 130              | 130               | 130               | 150               | 280              | 310               | 310               | 310               | 350               |
| Redhead           |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Ring-necked       | 100                              |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Canvasback        |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Scaup             | 100                              |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Goldeneye         |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Bufflehead        | 25                               |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Ruddy             | 100                              | 100              | 60                | 60                | 60                | 60               | 60                | 60                | 60                | 60                |
| Other             | 200                              |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Common Merganser  |                                  |                  |                   |                   |                   |                  |                   |                   |                   |                   |
| Total....         | 2360                             | 1665             | 1525              | 1560              | 1910              | 2340             | 2990              | 3290              | 3365              | 3405              |
| Coot:             | 4000                             | 1100             | 800               | 800               | 800               | 1000             | 1000              | 1000              | 1000              | 1000              |

Int. Dup. Sec., Wash., D.C. 37944

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(Rev. March 1953)

# WATERFOWL (Continuation Sheet)

REFUGE Ottawa - Cedar Point - DarbyMONTHS OF May 1 TO Sept. 1, 19 70

| (1)<br>Species         | (2)<br>Weeks of reporting period |      |      |        |      |       |        |       | (3)<br>Estimated<br>waterfowl<br>days use | (4)<br>Production<br>Broods: Estimate<br>seen : total |    |
|------------------------|----------------------------------|------|------|--------|------|-------|--------|-------|---|---|----|
|                        | 7/11                             | 7/18 | 7/25 | 8/01   | 8/08 | 8/15  | 8/22   | 8/29  |   |   |    |
|                        | 11                               | 12   | 13   | 14     | 15   | 16    | 17     | 18    |   |   |    |
| <b>Swans:</b>          |                                  |      |      |        |      |       |        |       |   |   |    |
| Whistling              |                                  |      |      |        |      |       |        |       |   |   |    |
| Trumpeter              |                                  |      |      |        |      |       |        |       |   |   |    |
| <b>Geese:</b>          |                                  |      |      |        |      |       |        |       |   |   |    |
| Canada                 | 775                              | 775  | 775  | 775    | 775  | 775   | 775    | 775   | 93,775                                    | 55  | 57 |
| Cackling               |                                  |      |      |        |      |       |        |       |   |   |    |
| Brant                  |                                  |      |      |        |      |       |        |       |   |   |    |
| White-fronted          |                                  |      |      |        |      |       |        |       |   |   |    |
| Snow                   |                                  |      |      |        |      |       |        |       |   |   |    |
| Blue                   |                                  |      |      |        |      |       |        |       |   |   |    |
| <b>Other Total ...</b> | 775                              | 775  | 775  | 775    | 775  | 775   | 775    | 775   | 93,775                                    | 55  | 57 |
| <b>Ducks:</b>          |                                  |      |      |        |      |       |        |       |   |   |    |
| Mallard                | 1500                             | 1500 | 1500 | 1500   | 1500 | 1000  | 1500   | 5135  | 270,070                                   | 2   | 20 |
| Black                  | 600                              | 750  | 750  | 750    | 750  | 2000  | 2000   | 2565  | 90,110                                    |   |    |
| Gadwall                | 35                               | 35   | 35   | 35     | 35   | 35    | 35     | 20    | 3,775                                     |   |    |
| Baldpate               |                                  |      |      |        |      | 100   | 100    | 98    | 1,001                                     |   |    |
| Pintail                | 35                               | 35   | 35   | 35     | 35   | 150   | 150    | 112   | 5,079                                     |   |    |
| Green-winged teal      | 90                               | 55   | 55   | 65     | 65   | 250   | 250    | 315   | 9,740                                     |   |    |
| Blue-winged teal       | 830                              | 900  | 900  | 900    | 900  | 2000  | 2900   | 1460  | 149,090                                   | 2   | 6  |
| Cinnamon teal          |                                  |      |      |        |      |       |        |       |   |   |    |
| Shoveler               | 15                               | 15   | 15   | 15     | 15   | 60    | 60     | 35    | 3,440                                     |   |    |
| Wood                   | 375                              | 375  | 375  | 375    | 375  | 900   | 1100   | 1610  | 55,455                                    | 7   | 25 |
| Redhead                |                                  |      |      |        |      |       |        |       |   |   |    |
| Ring-necked            |                                  |      |      |        |      |       |        |       | 200                                       |   |    |
| Canvasback             |                                  |      |      |        |      |       |        |       |   |   |    |
| Scaup                  |                                  |      |      |        |      |       |        |       | 200                                       |   |    |
| Goldeneye              |                                  |      |      |        |      |       |        |       |   |   |    |
| Bufflehead             |                                  |      |      |        |      |       |        |       | 50  |   |    |
| Ruddy                  |                                  |      |      |        |      |       |        |       | 1,365                                     |   |    |
| Other Common Merganser |                                  |      |      |        |      |       |        |       | 100                                       |   |    |
| <b>Total ...</b>       | 3495                             | 3665 | 3665 | 3675   | 3675 | 10495 | 14,395 | 19350 | 602,975                                   |   |    |
| <b>Coot:</b>           | 1000                             | 1000 | 1000 | 1000   | 1000 | 1000  | 1100   | 1300  | 126,300                                   |   |    |
|                        |                                  |      |      | (over) |      |       |        |       |   |   |    |

|       | (5)            | (6)         | (7)              |
|-------|----------------|-------------|------------------|
|       | Total Days Use | Peak Number | Total Production |
| Swans | ---            | ---         | ---              |
| Geese | 93,775         | 775         | 300              |
| Ducks | 602,975        | 19,350      | 450              |
| Coots | 126,300        | 4,000       | 250              |

#### SUMMARY

Principal feeding areas All early feeding took place in the major pools, however; by late August the birds had begun to feed in harvested fields on and around the refuge.

Principal nesting areas Nesting strips, dikes, islands and the goose man

Reported by James M. Carroll, Jr., Asst. Refuge Manager

#### INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

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(Rev. March 1953)

WATERFOWLREFUGE Ottawa - Cedar Point - DarbyMONTHS OF September TO January 1, 1971

| (1)<br>Species    | (2)<br>Weeks of reporting period |            |            |            |            |            |            |            |            |             |
|-------------------|----------------------------------|------------|------------|------------|------------|------------|------------|------------|------------|-------------|
|                   | Week of : 09/01<br>1             | 09/06<br>2 | 09/13<br>3 | 09/20<br>4 | 09/27<br>5 | 10/04<br>6 | 10/11<br>7 | 10/18<br>8 | 10/25<br>9 | 11/01<br>10 |
| Swans:            |                                  |            |            |            |            |            |            |            |            |             |
| Whistling         |                                  |            |            |            |            |            |            |            |            |             |
| Trumpeter         |                                  |            |            |            |            |            |            |            |            |             |
| Geese:            |                                  |            |            |            |            |            |            |            |            |             |
| Canada            | 775                              | 775        | 775        | 1,000      | 7,000      | 4,000      | 5,300      | 6,500      | 8,000      | 21,426      |
| Cackling          |                                  |            |            |            |            |            |            |            |            |             |
| Brant             |                                  |            |            |            |            |            |            |            |            |             |
| White-fronted     |                                  |            |            |            |            |            |            |            |            |             |
| Snow              |                                  |            |            |            | 5          | 5          | 5          | 50         | 50         | 75          |
| Blue              |                                  |            |            |            | 5          | 5          | 5          | 200        | 200        | 675         |
| Other TOTAL       | 775                              | 775        | 775        | 1,000      | 7,010      | 4,010      | 5,310      | 6,750      | 8,250      | 22,176      |
| Ducks:            |                                  |            |            |            |            |            |            |            |            |             |
| Mallard           | 5,135                            | 6,500      | 6,500      | 8,000      | 10,000     | 10,000     | 10,000     | 8,000      | 15,000     | 18,000      |
| Black             | 2,565                            | 1,500      | 1,500      | 1,500      | 1,000      | 750        | 1,700      | 2,500      | 5,900      | 7,000       |
| Gadwall           | 20                               | 20         | 140        | 210        | 225        | 50         | 50         | 150        | 150        | 4,000       |
| Baldpate          | 98                               | 170        | 170        | 200        | 250        | 200        | 1,250      | 3,000      | 500        | 2,200       |
| Pintail           | 112                              | 175        | 200        | 250        | 250        | 150        | 150        | 800        | 800        | 2,600       |
| Green-winged teal | 315                              | 300        | 300        | 475        | 500        | 200        | 200        | 400        | 165        | 150         |
| Blue-winged teal  | 4,460                            | 3,700      | 1,800      | 1,500      | 1,500      | 750        | 750        | 1,100      | 400        | 400         |
| Cinnamon teal     |                                  |            |            |            |            |            |            |            |            |             |
| Shoveler          | 35                               | 35         | 100        | 100        | 150        | 100        | 100        | 450        | 350        | 500         |
| Wood              | 1,610                            | 1,700      | 1,500      | 1,500      | 990        | 660        | 660        | 880        | 800        | 1,000       |
| Redhead           |                                  |            |            |            |            | 20         | 20         | 70         | 100        | 800         |
| Ring-necked       |                                  |            |            |            |            |            |            | 30         | 50         | 350         |
| Canvasback        |                                  |            |            |            |            |            |            | 45         | 60         | 100         |
| Scaup             |                                  |            |            |            | 10         | 20         | 20         | 175        | 225        | 400         |
| Goldeneye         |                                  |            |            |            |            |            |            |            |            | 150         |
| Bufflehead        |                                  |            |            |            | 75         | 50         | 50         | 100        | 100        | 200         |
| Ruddy             |                                  |            |            |            | 50         | 50         | 50         | 300        | 400        | 750         |
| Other             |                                  |            |            |            |            |            |            |            |            |             |
| TOTAL             | 14,350                           | 14,100     | 12,210     | 13,735     | 15,000     | 13,000     | 15,000     | 18,000     | 25,000     | 35,000      |
| Coot:             | 1,300                            | 1,500      | 1,700      | 2,100      | 4,000      | 5,500      | 7,000      | 8,200      | 10,000     | 10,000      |

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WATERFOWL  
(Continuation Sheet)REFUGE Ottawa - Cedar Point - DarbyMONTHS OF September TO January 1, 1971

|                                    |  | (2)                       |        |        |        |        |        |        | (3)       | (4)                            |
|------------------------------------|--|---------------------------|--------|--------|--------|--------|--------|--------|-----------|--------------------------------|
|                                    |  | Weeks of reporting period |        |        |        |        |        |        | Estimated | Production                     |
| (1) Week of..                      |  | 11/08                     | 11/15  | 11/22  | 11/29  | 12/06  | 12/13  | 12/20  | 12/27     |                                |
| Species                            |  | 11                        | 12     | 13     | 14     | 15     | 16     | 17     | 18        | waterfowl : Broods : Estimated |
|                                    |  |                           |        |        |        |        |        |        |           | days use : seen : total        |
| <b>Swans:</b>                      |  |                           |        |        |        |        |        |        |           |                                |
| Whistling                          |  | 19                        | 52     | 57     | 57     | 25     |        |        |           | 1,470                          |
| Trumpeter                          |  |                           |        |        |        |        |        |        |           |                                |
| <b>Geese:</b>                      |  |                           |        |        |        |        |        |        |           |                                |
| Canada                             |  | 20,000                    | 10,500 | 5,000  | 8,850  | 8,850  | 14,000 | 14,000 | 3,500     | 973,207                        |
| Cackling                           |  |                           |        |        |        |        |        |        |           |                                |
| Brant                              |  |                           |        |        |        |        |        |        |           |                                |
| White-fronted                      |  |                           |        |        |        |        |        |        |           |                                |
| Snow                               |  | 50                        | 20     | 20     | 50     | 50     | 50     |        |           | 3,010                          |
| Blue                               |  | 300                       | 130    | 130    | 300    | 300    | 300    |        |           | 17,850                         |
| <b>Other TOTAL</b>                 |  | 20,350                    | 10,650 | 5,150  | 9,200  | 9,200  | 14,350 | 14,000 | 3,500     | 994,067                        |
| <b>Ducks:</b>                      |  |                           |        |        |        |        |        |        |           |                                |
| Mallard                            |  | 25,000                    | 16,000 | 16,000 | 12,000 | 14,000 | 25,000 | 25,000 | 1,000     | 1,605,675                      |
| Black                              |  | 5,000                     | 5,000  | 7,000  | 7,000  | 10,000 | 15,000 | 15,000 | 4,000     | 644,275                        |
| Gadwall                            |  | 100                       | 100    | 100    |        |        | 100    | 100    |           | 13,365                         |
| Baldpate                           |  | 1,000                     | 1,000  | 400    | 100    | 100    | 1,000  | 1,000  |           | 88,270                         |
| Pintail                            |  | 1,200                     | 1,000  | 400    | 100    | 100    | 500    | 500    |           | 64,785                         |
| Green-winged teal                  |  | 30                        | 15     | 15     | 50     | 50     |        |        |           | 21,525                         |
| Blue-winged teal                   |  | 200                       | 100    | 100    | 100    | 100    | 100    | 100    |           | 111,200                        |
| Cinnamon teal                      |  |                           |        |        |        |        |        |        |           |                                |
| Shoveler                           |  | 300                       | 150    | 100    | 50     | 50     | 50     | 50     |           | 18,620                         |
| Wood                               |  | 800                       | 550    | 100    | 50     | 50     | 50     | 50     |           | 87,430                         |
| Redhead                            |  | 250                       | 250    | 150    | 50     | 50     | 50     | 50     |           | 13,020                         |
| Ring-necked                        |  | 100                       | 100    | 50     |        |        |        |        |           | 4,760                          |
| Canvasback                         |  | 50                        | 40     | 40     |        |        |        |        |           | 2,345                          |
| Scaup                              |  | 330                       | 300    | 200    | 100    | 100    | 500    | 500    |           | 20,160                         |
| Goldeneye                          |  | 20                        | 20     | 20     | 50     | 50     | 50     | 50     |           | 2,870                          |
| Bufflehead                         |  | 20                        | 55     | 55     |        |        |        |        |           | 4,935                          |
| Ruddy                              |  | 600                       | 250    | 200    | 100    | 100    | 200    | 200    |           | 22,750                         |
| <del>Common</del> Common Merganser |  |                           | 70     | 70     | 250    | 250    | 2,400  | 2,400  |           | 38,080                         |
| <b>TOTAL</b>                       |  | 35,000                    | 25,000 | 25,000 | 20,000 | 25,000 | 45,000 | 45,000 | 5,000     | 2,764,065                      |
| <b>Coos:</b>                       |  | 6,000                     | 2,000  | 2,000  |        | (over) |        |        |           | 426,500                        |

| (5)              | (6)           | (7)                | SUMMARY   |
|------------------|---------------|--------------------|---|
| Total Days Use : | Peak Number : | Total Production : |   |
| Swans 1,470      | 57            |                    | Principal feeding areas <u>Harvested soybean fields and buckwheat fields, Canada Geese fed principally on (greens) winter wheat, rye and what corn was available on the refuge.</u> |
| Geese 994,067    | 22,176        |                    |   |
| Ducks 2,764,065  | 45,000        |                    | Principal nesting areas _____   |
| Coots 426,500    | 10,000        |                    |   |
|                  |               |                    | Reported by <u>James M. Carroll, Jr., Assistant Manager</u>   |

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- (1) Species: In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.
- (2) Weeks of Reporting Period: Estimated average refuge populations.
- (3) Estimated Waterfowl Days Use: Average weekly populations x number of days present for each species.
- (4) Production: Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted.
- (5) Total Days Use: A summary of data recorded under (3).
- (6) Peak Number: Maximum number of waterfowl present on refuge during any census of reporting period.
- (7) Total Production: A summary of data recorded under (4).

Interior Duplicating Section, Washington, D. C.

1953

3-1751  
Form NR-  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Ottawa - Cedar Point - Darby Months of January 1 to May 1 1951  
1970

| (1)<br>Species                          | (2)<br>First Seen |         | (3)<br>Peak Numbers          |      | (4)<br>Last Seen |         | (5)<br>Production |               |             | (6)<br>Total     |
|---|-------------------|---------|------------------------------|------|------------------|---------|-------------------|---------------|-------------|------------------|
| Common Name                             | Number            | Date    | Number                       | Date | Number           | Date    | Number Colonies   | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u>        |                   |         |                              |      |                  |         |                   |               |             |                  |
| Great Blue Heron                        | 3                 | Present | 200                          | 4/30 | 200              | Present |                   |               |             | 400              |
| Green Heron                             | 3                 | 4/01    | 10                           | 4/30 | 10               | Present |                   |               |             | 50               |
| Little Blue Heron                       | 1                 | 4/23    | (Only Sighting)              |      |                  |         |                   |               |             | 1                |
| Common Egret                            | 1                 | 3/01    | 100                          | 4/30 | 100              | Present |                   |               |             | 150              |
| Black-crowned Night Heron               | 10                | 4/01    | 50                           | 4/30 | 50               | Present |                   |               |             | 100              |
| American Bittern                        | 1                 | 4/05    | 1                            | 4/05 | 1                | Present |                   |               |             | 1                |
| Glossy Ibis                             | 1                 | 4/23    | (Only Sighting)              |      |                  |         |                   |               |             | 1                |
| Sandhill Crane                          | 4                 | 4/01    | (Only Sighting)              |      |                  |         |                   |               |             | 4                |
| Virginia Rail                           | 1                 | 3/01    | (Found dead - Only Sighting) |      |                  |         |                   |               |             | 1                |
| Common Gallinule                        | 1                 | 4/11    | 20                           | 4/30 | 20               | Present |                   |               |             | 50               |
| II. <u>Shorebirds, Gulls and Terns:</u> |                   |         |                              |      |                  |         |                   |               |             |                  |
| Semipalmated Plover                     | 1                 | 4/28    | 10                           | 4/30 | 10               | Present |                   |               |             | 25               |
| Killdeer                                | 50                | Present | 150                          | 4/30 | 150              | Present |                   |               |             | 150              |
| Common Snipe                            | 4                 | 4/05    | 4                            | 4/05 | 4                | Present |                   |               |             | 2                |
| Greater Yellowlegs                      | 2                 | 4/08    | 10                           | 4/15 | 10               | Present |                   |               |             | 25               |
| Pectoral Sandpiper                      | 2                 | 3/21    | 25                           | 4/30 | 25               | Present |                   |               |             | 50               |
| Great Black-backed Gull                 | 3                 | Present | 36                           | 3/01 | 20               | Present |                   |               |             | 36               |
| Herring Gull                            | 110               | 2/01    | 1000                         | 3/01 | 1000             | Present |                   |               |             | 2000             |
| Ring-billed Gull                        | 5                 | 2/01    | 2000                         | 3/01 | 2000             | Present |                   |               |             | 3000             |
| Bonapartes Gull                         | 1                 | 2/01    | 190                          | 4/05 | 100              | Present |                   |               |             | 500              |
| Common Tern                             | 1                 | 4/21    | 50                           | 4/30 | 50               | Present |                   |               |             | 150              |
| Caspian Tern                            | 1                 | 4/21    | 1200                         | 4/30 | 1200             | Present |                   |               |             | 2000             |

(over)

| (1)                            | (2) |         | (3)             |      | (4)  |         | (5)  |  |  | (6)  |
|--------------------------------|-----|---------|-----------------|------|------|---------|--|--|--|------|
| III. <u>Doves and Pigeons:</u> |     |         |                 |      |      |         |  |  |  |      |
| Mourning dove                  | 25  | Present | 1000            | 4/30 | 1000 | Present |  |  |  | 2500 |
| White-winged dove              |     |         |                 |      |      |         |  |  |  |      |
| IV. <u>Predaceous Birds:</u>   |     |         |                 |      |      |         |  |  |  |      |
| Golden eagle                   |     |         |                 |      |      |         |  |  |  |      |
| Duck hawk                      |     |         |                 |      |      |         |  |  |  |      |
| Horned owl                     | 10  | Present | 10              | 4/30 | 10   | Present |  |  |  | 15   |
| Magpie                         |     |         |                 |      |      |         |  |  |  |      |
| Raven                          |     |         |                 |      |      |         |  |  |  |      |
| Crow                           | 5   | Present | 500             | 3/01 | 50   | Present |  |  |  | 500  |
| Turkey Vulture                 | 8   | 4/05    | 25              | 4/01 | 4    | Present |  |  |  | 50   |
| Red-tailed Hawk                | 5   | Present | 32              | 3/01 | 6    | Present |  |  |  | 25   |
| Red-shouldered Hawk            | 2   | 3/01    | (Only Sighting) |      |      |         |  |  |  | 2    |
| Rough-legged Hawk              | 2   | 2/01    | 25              | 4/01 | 10   | Present |  |  |  | 50   |
| Bald Eagle                     | 2   | Present | 3               | 4/06 | 3    | Present |  |  |  | 3    |
| Marsh Hawk                     | 5   | Present | 10              | 4/30 | 10   | Present |  |  |  | 25   |
| Osprey                         | 1   | 4/05    | (Only Sighting) |      |      |         |  |  |  | 1    |
| Pigeon Hawk                    | 1   | 2/01    | (Only Sighting) |      |      |         |  |  |  | 1    |
| Sparrow Hawk                   | 2   | Present | 100             | 4/01 | 20   | Present |  |  |  | 200  |
| ** Short-eared Owl             | 10  | 1/04    | 20              | 4/01 | 20   | Present | Reported by James M. Carroll, Jr., Asst. Manager |  |  | 20   |

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

MIGRATORY BIRDS  
(other than waterfowl)

No. 1 of 2 Pages

Refuge Ottawa - Cedar Point - Darby Months of May 1 to September 1 1950  
West Sister Island

| (1)<br>Species                          | (2)<br>First Seen |         | (3)<br>Peak Numbers |         | (4)<br>Last Seen |         | (5)<br>Production    |               |             | (6)<br>Total     |
|---|-------------------|---------|---------------------|---------|------------------|---------|----------------------|---------------|-------------|------------------|
| Common Name                             | Number            | Date    | Number              | Date    | Number           | Date    | Number Colonies      | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u>        |                   |         |                     |         |                  |         |                      |               |             |                  |
| Pied-billed Grebe                       | 5                 | 5/03    | 60                  | 7/20    | 16               | Present |                      |               | 40          | 75               |
| Great Blue Heron                        | 200               | Present | 2000                | 7/15    | 2000             | Present | 1 *                  | 1500          | 4500        | 7500             |
| Great Heron                             | 10                | Present | 11                  | 6/07    | 11               | Present |                      |               |             | 50               |
| Little Blue Heron                       | 1                 | 5/03    | 1                   | 7/30    | 1                | 7/30    |                      |               |             | 4                |
| Cattle Egret                            | 2                 | 5/05    | 3                   | 5/12    | 3                | 5/20    |                      |               |             | 3                |
| Common Egret                            | 100               | Present | 1100                | Present | 1100             | Present | 1 *                  | 1000          | 2500        | 4500             |
| Snowy Egret                             | 1                 | 8/02    | 1                   | 8/02    | 1                | 8/02    |                      |               |             | 1                |
| Black Crowned Night Heron               | 50                | Present | 1600                | 6/07    | 1600             | Present | 1 *                  | 1000          | 3000        | 5500             |
| Least Bittern                           | 1                 | 7/05    | 1                   | 7/05    | 1                | 7/05    |                      |               |             | 10               |
| American Bittern                        | 1                 | Present | 2                   | 5/03    | 1                | 6/07    |                      |               |             | 50               |
| Virginia Rail                           | 1                 | 5/03    | 1                   | 5/03    | 1                | 5/03    |                      |               |             | 1                |
| Sora                                    | 8                 | 5/03    | 8                   | 5/03    | 8                | 5/03    |                      |               |             | 8                |
| Common Gallinule                        | 20                | Present | 20                  | 5/03    | 1                | Present |                      |               | 10          | 20               |
|   |                   |         |                     |         |                  |         | * West Sister Island |               |             |                  |
| II. <u>Shorebirds, Gulls and Terns:</u> |                   |         |                     |         |                  |         |                      |               |             |                  |
| Semipalmated Plover                     | 10                | Present | 4                   | 5/03    | 8                | Present |                      |               |             | 10               |
| Killdeer                                | 150               | Present | 150                 | 5/03    | 50               | Present |                      |               |             | 150              |
| Black-bellied Plover                    | 10                | 5/03    | 10                  | 5/03    | 10               | 5/03    |                      |               |             | 10               |
| Ruddy Turnstone                         | 12                | 5/03    | 12                  | Present | 12               | Present |                      |               |             | 50               |
| Woodcock                                | 1                 | 5/03    | 150                 | 7/30    | 150              | Present |                      |               |             | 200              |
| Common Snipe                            | 4                 | Present | 4                   | 5/03    | 2                | Present |                      |               |             | 4                |
| Upland Plover                           | 3                 | 8/02    | 3                   | 8/02    | 3                | Present |                      |               |             | 3                |
| Spotted Sandpiper                       | 18                | 5/03    | 18                  | 5/03    | 7                | Present |                      |               |             | 150              |
| Solitary Sandpiper                      | 8                 | 5/03    | 8                   | 5/03    | 2                | Present |                      |               |             | 8                |
| Greater Yellowlegs                      | 10                | Present | 11                  | 8/02    | 11               | Present |                      |               |             | 75               |
| Lesser Yellowlegs                       | 7                 | 5/03    | 31                  | 8/02    | 31               | Present |                      |               |             | 100              |
| Pectoral Sandpiper                      | 25                | Present | 25                  | 5/03    | 9                | Present |                      |               |             | 25               |
| Least Sandpiper                         | 11                | 8/02    | 11                  | 8/02    | 11               | Present |                      |               |             | 11               |
| Dunlin                                  | 10                | 5/03    | 10                  | 5/03    | 3                | 8/02    |                      |               |             | 200              |

(over)

| (1)                             | (2)  |         | (3)  |         | (4) |                                      | (5) |  |  | (6)  |
|---------------------------------|------|---------|------|---------|-----|--------------------------------------|-----|--|--|------|
| III. <u>Doves and Pigeons</u> : | 1000 | Present | 1000 | 5/03    | 200 | Present                              |     |  |  | 1000 |
| Mourning dove                   |      |         |      |         |     |                                      |     |  |  |      |
| White-winged dove               |      |         |      |         |     |                                      |     |  |  |      |
| IV. <u>Predaceous Birds</u> :   |      |         |      |         |     |                                      |     |  |  |      |
| Golden eagle                    |      |         |      |         |     |                                      |     |  |  |      |
| Duck hawk                       | 10   | Present | 10   | Present | 10  | Present                              |     |  |  | 10   |
| Horned owl                      |      |         |      |         |     |                                      |     |  |  |      |
| Magpie                          |      |         |      |         |     |                                      |     |  |  |      |
| Raven                           | 50   | Present | 50   | 5/03    | 5   | Present                              |     |  |  | 50   |
| Crow                            |      |         |      |         |     |                                      |     |  |  |      |
| Turkey Vulture                  | 4    | Present | 7    | 5/03    | 1   | Present                              |     |  |  | 1    |
| Red-tailed Hawk                 | 6    | Present | 6    | 5/03    | 3   | Present                              |     |  |  | 6    |
| Rough-legged Hawk               | 10   | Present | 10   | 5/03    | 10  | 5/03                                 |     |  |  | 10   |
| Bald Eagle                      | 3    | Present | 3    | Present | 3   | Present                              |     |  |  | 3    |
| Marsh Hawk                      | 10   | Present | 10   | 5/03    | 2   | Present                              |     |  |  | 10   |
| -CONTINUED ON REVERSE SIDE-     |      |         |      |         |     |                                      |     |  |  |      |
| - OF PAGE #2 -                  |      |         |      |         |     |                                      |     |  |  |      |
|                                 |      |         |      |         |     | James M. Carroll, Jr., Asst. Manager |     |  |  |      |
|                                 |      |         |      |         |     | Reported by .....                    |     |  |  |      |

#### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
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- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751  
Form NR-1a  
(Nov. 1945)

MIGRATORY BIRDS  
(other than waterfowl) - (Continued) -

Pg. #2 of 2 Pages

Refuge...Ottawa...Cedar Point...Darby... Months of May 1 to September 1, 1951-1970  
West Sister Island

| (1)<br>Species                   | (2)<br>First Seen |      | (3)<br>Peak Numbers |      | (4)<br>Last Seen |      | (5)<br>Production |               |             | (6)<br>Total     |
|----------------------------------|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name                      | Number            | Date | Number              | Date | Number           | Date | Number Colonies   | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
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| (1)  | (2)                    | (3)     | (4) | (5)  | (6) |
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| III. <u>Doves and Pigeons:</u>                   |                        |         |     |      |     |
| Mourning dove                                    |                        |         |     |      |     |
| White-winged dove                                |                        |         |     |      |     |
| IV. <u>Predaceous Birds:</u> -                   | CONTINUED FROM PAGE #1 |         |     |      |     |
| Golden eagle                                     |                        |         |     |      |     |
| Duck hawk  |                        |         |     |      |     |
| Horned owl                                       |                        |         |     |      |     |
| Magpie   |                        |         |     |      |     |
| Raven  |                        |         |     |      |     |
| Crow   |                        |         |     |      |     |
| Osprey   | 1                      | 5/03    | 1   | 5/03 | 1   |
| Sparrow Hawk                                     | 20                     | Present | 20  | 5/03 | 20  |
| Screech Owl                                      | 5                      | 5/03    | 5   | 5/03 | 5   |
| Short-eared Owl                                  | 20                     | Present | 20  | 5/03 | 20  |
| Reported by James M. Carroll, Jr., Asst. Manager |                        |         |     |      |     |

### INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

Refuge Ottawa - Cedar Point - and Months of September to January 1, 1971

| (1)<br>Species                          |      | (3)<br>Peak Numbers |      | (4)<br>Last Seen |      | (5)<br>Production |                           |                | (6)<br>Total        |
|---|------|---------------------|------|------------------|------|-------------------|---------------------------|----------------|---------------------|
| Common Name                             |      | Number              | Date | Number           | Date | Number            | Total #<br>Colonies Nests | Total<br>Young | Estimated<br>Number |
| <b>I. Water and Marsh Birds:</b>        |      |                     |      |                  |      |                   |                           |                |                     |
| Pied-billed Grebe                       | 16   | Present             | 16   | 9/15             | 7    | 11/15             |                           |                | 30                  |
| Great Blue Heron                        | 2000 | Present             | 2000 | 9/15             | 51   | Present           |                           |                | 7000                |
| Green Heron                             | 11   | Present             | 17   | 9/05             | 17   | 9/05              |                           |                | 50                  |
| Cattle Egret                            | 4    | 9/22                | 4    | 9/22             | 2    | 10/04             |                           |                | 4                   |
| Common Egret                            | 1100 | Present             | 1100 | 9/15             | 1    | 12/05             |                           |                | 4000                |
| Black-crowned Night Heron               | 1600 | Present             | 1600 | 9/15             | 1    | 11/01             |                           |                | 3500                |
| Least Bittern                           | 2    | 9/05                | 2    | 9/05             | 2    | 9/05              |                           |                | 15                  |
| King Rail                               | 1    | 10/04               | 1    | 10/04            | 1    | 10/04             |                           |                | 1                   |
| Sora                                    | 24   | 9/05                | 24   | 9/05             | 1    | 10/04             |                           |                | 50                  |
| Common Gallinule                        | 1    | Present             | 1    | 9/15             | 1    | 9/15              |                           |                | 10                  |
| <b>II. Shorebirds, Gulls and Terns:</b> |      |                     |      |                  |      |                   |                           |                |                     |
| Semipalmated Plover                     | 8    | Present             | 8    | 9/15             | 8    | 9/15              |                           |                | 16                  |
| Killdeer                                | 50   | Present             | 62   | 9/05             | 1    | 12/06             |                           |                | 150                 |
| American Golden Plover                  | 5    | 9/05                | 5    | 9/05             | 5    | 9/05              |                           |                | 10                  |
| Black-bellied Plover                    | 8    | 9/05                | 8    | 9/05             | 2    | 10/04             |                           |                | 20                  |
| Ruddy Turnstone                         | 12   | Present             | 12   | 9/15             | 12   | 9/15              |                           |                | 25                  |
| American Woodcock                       | 150  | Present             | 150  | 9/15             | 150  | 9/15              |                           |                | 300                 |
| Common Snipe                            | 2    | Present             | 18   | 10/04            | 18   | 10/04             |                           |                | 50                  |
| Upland Plover                           | 3    | Present             | 3    | 9/15             | 3    | 9/15              |                           |                | 10                  |
| Spotted Sandpiper                       | 7    | Present             | 7    | 9/15             | 7    | 9/15              |                           |                | 20                  |
| Solitary Sandpiper                      | 2    | Present             | 2    | 9/15             | 2    | 9/15              |                           |                | 10                  |
| Greater Yellowlegs                      | 11   | Present             | 14   | 9/05             | 9    | 11/01             |                           |                | 30                  |
| Lesser Yellowlegs                       | 31   | Present             | 31   | 9/15             | 1    | 11/01             |                           |                | 60                  |
| Pectoral Sandpiper                      | 9    | Present             | 21   | 9/05             | 1    | 11/01             |                           |                | 40                  |
| Least Sandpiper                         | 11   | Present             | 12   | 9/05             | 1    | 11/01             |                           |                | 25                  |

| (1)                            | (2)  |         | (3)  |          | (4) |   | (5) |  | (6)  |
|--------------------------------|------|---------|------|----------|-----|---|-----|--|------|
| III. <u>Doves and Pigeons:</u> |      |         |      |          |     |   |     |  |      |
| Mourning dove                  | 1000 | Present | 1000 | 9/15     | 68  | Present   |     |  | 3000 |
| White-winged dove              |      |         |      |          |     |   |     |  |      |
| IV. <u>Predaceous Birds:</u>   |      |         |      |          |     |   |     |  |      |
| Golden eagle                   |      |         |      |          |     |   |     |  |      |
| Duck hawk                      |      |         |      |          |     |   |     |  |      |
| Horned owl                     | 10   | Present | 10   | Resident | 10  | Present   |     |  | 10   |
| Magpie                         |      |         |      |          |     |   |     |  |      |
| Raven                          |      |         |      |          |     |   |     |  |      |
| Crow                           | 5    | Present | 5    | 9/15     | 5   | 9/15  |     |  | 25   |
| Turkey Vulture                 | 5    | Present | 1    | 9/15     | 1   | 9/15  |     |  | 10   |
| Coopers Hawk                   | 2    | 12/15   | 2    | 12/15    | 2   | Present   |     |  | 10   |
| Red-tailed Hawk                | 3    | Present | 39   | 12/15    | 39  | Present   |     |  | 100  |
| Rough-legged Hawk              | 10   | Present | 32   | 12/15    | 32  | Present   |     |  | 75   |
| Bald Eagle                     | 6    | Present | 6    | Resident | 6   | Present   |     |  | 7    |
| Marsh Hawk                     | 2    | Present | 11   | 12/15    | 11  | Present   |     |  | 25   |
| - CONTINUED -                  |      |         |      |          |     |   |     |  |      |
|                                |      |         |      |          |     | Reported by <u>James M. Carroll, Jr., Asst. Manager</u> |     |  |      |

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

Form NR-

(Nov. 1945)

## MIGRATORY BIRDS

 Ottawa - Cedar Point - and (other than waterfowl) September to January 1, 1971  
 Refuge West Sister Island Months of to 195

| (1)<br>Species                   | (2)<br>First Seen |      | (3)<br>Peak Numbers |      | (4)<br>Last Seen |      | (5)<br>Production |               |             | (6)<br>Total     |
|----------------------------------|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name                      | Number            | Date | Number              | Date | Number           | Date | Number Colonies   | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> |                   |      |                     |      |                  |      |                   |               |             |                  |
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(over)

| (1)                      | (2) |         | (3) |       | (4) |                                      | (5) |  | (6) |
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| III. Doves and Pigeons:  |     |         |     |       |     |                                      |     |  |     |
| Mourning dove            |     |         |     |       |     |                                      |     |  |     |
| White-winged dove        |     |         |     |       |     |                                      |     |  |     |
| CONTINUATION - PAGE #2 - |     |         |     |       |     |                                      |     |  |     |
| IV. Predaceous Birds:    |     |         |     |       |     |                                      |     |  |     |
| Golden eagle             |     |         |     |       |     |                                      |     |  |     |
| Duck hawk                |     |         |     |       |     |                                      |     |  |     |
| Horned owl               |     |         |     |       |     |                                      |     |  |     |
| Magpie                   |     |         |     |       |     |                                      |     |  |     |
| Raven                    |     |         |     |       |     |                                      |     |  |     |
| Crow                     |     |         |     |       |     |                                      |     |  |     |
| Sparrow Hawk             | 3   | Present | 7   | 12/15 | 7   | Present                              |     |  | 15  |
| Screech Owl              | 1   | 12/15   | 1   | 12/15 | 1   | Present                              |     |  | 5   |
| Short-eared Owl          | -2  | 12/15 - | 2   | 12/15 | 2   | Present                              |     |  | 5   |
|                          |     |         |     |       |     | James M. Carroll, Jr., Asst. Manager |     |  |     |
|                          |     |         |     |       |     | Reported by .....                    |     |  |     |

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1750b

Form NR-1B

(Rev. Nov. 1957)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
FISH AND WILDLIFE SERVICE  
BUREAU OF SPORT FISHERIES AND WILDLIFE

WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Ottawa-Cedar Point-Darby For 12-month period ending August 31, 1970

Reported by James M. Carroll, Jr. Title Assistant Refuge Manager

| (1)<br>Area or Unit<br>Designation | (2)<br>Habitat |         | (3)<br>Use-days | (4)<br>Breeding |  | (5)<br>Production |
|------------------------------------|----------------|---------|-----------------|-----------------|--|-------------------|
|                                    | Type           | Acreage |                 | Population      |  |                   |
| POOL #1                            | Crops          | 94      | Ducks           | 823,637         |  |                   |
|                                    | Upland         | 110     | Geese           | 299,811         |  |                   |
|                                    | Marsh          | 270     | Swans           | 3,172           |  |                   |
|                                    | Water          | 150     | Coots           | 160,944         |  |                   |
|                                    | Total          | 624     | Total           | 1,287,564       |  |                   |
| POOL #2                            | Crops          | 195     | Ducks           | 1,250,116       |  |                   |
|                                    | Upland         | 90      | Geese           | 149,905         |  |                   |
|                                    | Marsh          | 240     | Swans           | 2,200           |  |                   |
|                                    | Water          | 80      | Coots           | 101,931         |  |                   |
|                                    | Total          | 605     | Total           | 1,504,152       |  |                   |
| POOL #3                            | Crops          | 157     | Ducks           | 379,691         |  |                   |
|                                    | Upland         | 56      | Geese           | 53,064          |  |                   |
|                                    | Marsh          | 261     | Swans           | 143             |  |                   |
|                                    | Water          | 175     | Coots           | 65,915          |  |                   |
|                                    | Total          | 649     | Total           | 498,813         |  |                   |
| POOL #4                            | Crops          |         | Ducks           | 414,739         |  |                   |
|                                    | Upland         | 20      | Geese           | 79,596          |  |                   |
|                                    | Marsh          | 148     | Swans           | 3,401           |  |                   |
|                                    | Water          | 25      | Coots           | 47,520          |  |                   |
|                                    | Total          | 193     | Total           | 545,256         |  |                   |
| POOL #5                            | Crops          | 720     | Ducks           | 496,519         |  |                   |
|                                    | Upland         | 54      | Geese           | 240,114         |  |                   |
|                                    | Marsh          | 171     | Swans           | 1,258           |  |                   |
|                                    | Water          | 25      | Coots           | 22,227          |  |                   |
|                                    | Total          | 970     | Total           | 760,118         |  |                   |
| POOL #6                            | Crops          | 164     | Ducks           | 11,682          |  |                   |
|                                    | Upland         | 56      | Geese           | 3,980           |  |                   |
|                                    | Marsh          | 100     | Swans           |                 |  |                   |
|                                    | Water          | 30      | Coots           | 766             |  |                   |
|                                    | Total          | 350     | Total           | 16,428          |  |                   |
| POOL #7                            | Crops          | 258     | Ducks           | 689,285         |  |                   |
|                                    | Upland         | 70      | Geese           | 310,480         |  |                   |
|                                    | Marsh          | 165     | Swans           | 143             |  |                   |
|                                    | Water          | 30      | Coots           | 6,898           |  |                   |
|                                    | Total          | 523     | Total           | 1,006,806       |  |                   |

(over)

## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

- (1) Area or Unit: A geographical unit which, because of size, terrain characteristics, habitat type and current or anticipated management practices, may be considered an entity apart from other areas in the refuge census pattern. The combined estimated acreages of all units should be equal the total refuge area. A detailed map and accompanying verbal description of the habitat types of each unit should be forwarded with the initial report for each refuge, and thereafter need only be submitted to report changes in unit boundaries or their descriptions.
- (2) Habitat: Crops include all cultivated croplands such as cereals and green forage, planted food patches and agricultural row crops; upland is all uncultivated terrain lying above the plant communities requiring seasonal submergence or a completely saturated soil condition a part of each year, and includes lands whose temporary flooding facilitates use of non-aquatic type foods; marsh extends from the upland community to, but not including, the water type and consists of the relatively stable marginal or shallow-growing emergent vegetation type, including wet meadow and deep marsh; and in the water category are all other water areas inundated most or all of the growing season and extending from the deeper edge of the marsh zone to strictly open-water, embracing such habitat as shallow playa lakes, deep lakes and reservoirs, true shrub and tree swamps, open flowing water and maritime bays, sounds and estuaries. Acreage estimates for all four types should be computed and kept as accurate as possible through reference to available maps supplemented by periodic field observations. The sum of these estimates should equal the area of the entire unit.
- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

UNITED STATES  
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WATERFOWL UTILIZATION OF REFUGE HABITAT

Refuge Ottawa-Cedar Point-Darby For 12-month period ending August 31, 1970

Reported by James M. Carroll, Jr. Title Assistant Refuge Manager

| (1)<br>Area or Unit<br>Designation | (2)<br>Habitat<br>Type | (3)<br>Acreage | (4)<br>Use-days | (5)<br>Breeding<br>Population | (6)<br>Production |
|------------------------------------|------------------------|----------------|-----------------|-------------------------------|-------------------|
| POOL #8                            | Crops                  | 152            | Ducks           | 368,008                       |                   |
|                                    | Upland                 | 85             | Geese           | 27,858                        |                   |
|                                    | Marsh                  | 171            | Swans           |                               |                   |
|                                    | Water                  | 25             | Coots           | 7,764                         |                   |
|                                    | Total                  | 433            | Total           | 403,630                       |                   |
| CRANE CREEK                        | Crops                  |                | Ducks           | 397,215                       |                   |
|                                    | Upland                 |                | Geese           | 116,741                       |                   |
|                                    | Marsh                  | 40             | Swans           | 714                           |                   |
|                                    | Water                  | 106            | Coots           | 29,892                        |                   |
|                                    | Total                  | 146            | Total           | 540,562                       |                   |
| CEDAR POINT                        | Crops                  | 90             | Ducks           | 736,016                       |                   |
|                                    | Upland                 | 10             | Geese           | 26,532                        |                   |
|                                    | Marsh                  | 1,700          | Swans           | 11,634                        |                   |
|                                    | Water                  | 445            | Coots           | 201,497                       |                   |
|                                    | Total                  | 2,245          | Total           | 975,679                       |                   |
| NAVARRE                            | Crops                  |                | Ducks           | 134,352                       |                   |
|                                    | Upland                 | 33             | Geese           | 5,306                         |                   |
|                                    | Marsh                  | 500            | Swans           | 4,173                         |                   |
|                                    | Water                  |                | Coots           | 64,382                        |                   |
|                                    | Total                  | 533            | Total           | 208,213                       |                   |
| DARBY                              | Crops                  |                | Ducks           | 140,193                       |                   |
|                                    | Upland                 | 89             | Geese           | 13,266                        |                   |
|                                    | Marsh                  | 400            | Swans           | 1,743                         |                   |
|                                    | Water                  |                | Coots           | 56,717                        |                   |
|                                    | Total                  | 489            | Total           | 211,919                       |                   |
| REFUGE<br>TOTAL                    | Crops                  | 1,830          | Ducks           | 5,841,453                     | 1,500             |
|                                    | Upland                 | 673            | Geese           | 1,326,653                     | 75                |
|                                    | Marsh                  | 4,166          | Swans           | 28,581                        |                   |
|                                    | Water                  | 1,091          | Coots           | 766,453                       | 250               |
|                                    | Total                  | 7,760          | Total           | 7,963,140                     | 1,825             |
|                                    | Crops                  |                | Ducks           |                               |                   |
|                                    | Upland                 |                | Geese           |                               |                   |
|                                    | Marsh                  |                | Swans           |                               |                   |
|                                    | Water                  |                | Coots           |                               |                   |
|                                    | Total                  |                | Total           |                               |                   |

(over)

## INSTRUCTIONS

All tabulated information should be based on the best available techniques for obtaining these data. Estimates having no foundation in fact must be omitted. Refuge grand totals for all categories should be provided in the spaces below the last unit tabulation. Additional forms should be used if the number of units reported upon exceeds the capacity of one page. This report embraces the preceding 12-month period, NOT the fiscal or calendar year, and is submitted annually with the May-August Narrative Report.

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- (3) Use-days: Use-days is computed by multiplying weekly waterfowl population figures by seven, and should agree with information reported on Form NR-1.
- (4) Breeding Population: An estimate of the total breeding population of each category of birds for each area or unit.
- (5) Production: Estimated total number of young raised to flight age.

3-1750c  
Form No. C  
(Sept. 1960)

Waterfowl Hunter Kill Survey

Refuge Ottawa - Cedar Point - West Sister Island

1970  
Year ~~1961~~

| (1)<br>Weeks of<br>Hunting | (2)<br>No. Hunters<br>Checked | (3)<br>Hunter<br>Hours | (4)<br>Waterfowl Species and Nos. of Each Bagged | (5)<br>Total<br>Bagged | (6)<br>Crippling<br>Loss | (7)<br>Total<br>Kill | (8)<br>Est. No.<br>Hunters | (9)<br>Est. Total<br>Kill |
|----------------------------|-------------------------------|------------------------|--|------------------------|--------------------------|----------------------|----------------------------|---------------------------|
|                            |                               |                        | <b>NOTHING TO REPORT</b><br>*****                |                        |                          |                      |                            |                           |

(over)

# INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent.  $\text{Column 9} = \frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}.$

80348-60

3-1752  
Form NR-2  
(April 1946)

# UPLAND GAME BIRDS

Refuge Ottawa and Cedar Point and Darby Months of January 1 to April 30, 1970

| (1)<br>Species          | (2)<br>Density   | (3)<br>Young<br>Produced |                              |                    | (4)<br>Sex<br>Ratio | (5)<br>Removals |                     |                 | (6)<br>Total                           | (7)<br>Remarks   |
|-------------------------|--|--------------------------|------------------------------|--------------------|---------------------|-----------------|---------------------|-----------------|--|--|
| Common Name             | Cover types, total<br>acreage of habitat   | Acres<br>Per<br>Bird     | Number<br>broods<br>observed | Estimated<br>Total | Percentage          | Hunting         | For Re-<br>stocking | For<br>Research | Estimated<br>number<br>using<br>Refuge | Pertinent information not<br>specifically requested.<br>List introductions here.   |
| Ring-necked<br>Pheasant | Agriculture:<br>2,000 acres<br>Cattail Marsh -<br>4,000 acres<br>Mixed Hardwoods -<br>120 acres  | 7.6                      |                              |                    | 1M:3F               |                 |                     |                 | 800                                    | Food and cover conditions<br>are excellent for this time<br>of year. The figures re-<br>ported here are not based<br>on any systematic procedure,<br>but are merely estimates. |
| Bob-white<br>Quail      | Agriculture -<br>2,000 acres<br>Cattail Marsh -<br>4,000 acres<br>Mixed Hardwoods -<br>120 acres | 122                      |                              |                    | Unknown             |                 |                     |                 | 50                                     | Food and cover appear<br>excellent for a continued<br>increase of this species.  |

\*Only columns applicable to the period covered should be used.

# INSTRUCTIONS

## Form NR-2 - UPLAND GAME BIRDS\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\*Only columns applicable to the period covered should be used.

## UPLAND GAME BIRDS

Refuge **Ottawa - Cedar Point - Darby**

Months of **May 1** to **September 1**, 1970

| (1)<br>Species   | (2)<br>Density  | (3)<br>Young<br>Produced |                              |                    | (4)<br>Sex<br>Ratio | (5)<br>Removals |                     |                 | (6)<br>Total                           | (7)<br>Remarks  |
|--|---|--------------------------|------------------------------|--------------------|---------------------|-----------------|---------------------|-----------------|--|---|
| Common Name  | Cover types, total<br>acreage of habitat  | Acres<br>Per<br>Bird     | Number<br>broods<br>observed | Estimated<br>Total | Percentage          | Hunting         | For Re-<br>stocking | For<br>Research | Estimated<br>number<br>using<br>Refuge | Pertinent information not<br>specifically requested.<br>List introductions here.  |
| Ring-necked<br>Pheasant  | Agriculture:<br>2,000 acres<br>Cattail Marsh:<br>4,000 acres<br>Mixed Hardwoods:<br>120 acres | 7.6                      | 2                            | 100                | 1M:3F               |                 |                     |                 | 900                                    | Food and cover conditions<br>are excellent. Production<br>this year should offset<br>severe nest losses during<br>last years July 4th storm.                  |
| Bob-white<br>Quail   | Agriculture:<br>2,000 acres<br>Cattail Marsh:<br>4,000 acres<br>Mixed Hardwoods:<br>120 acres | 122                      | Unknown                      |                    | Unknown             |                 |                     |                 | 50                                     | Food remains excellent -<br>cover is improving.<br>This species was heard but<br>not sighted this period.<br>Apparently the population<br>is holding its own. |
| <p>POPULATION ESTIMATES FOR THESE TWO SPECIES ARE BASED<br/>ON OBSERVATIONS MADE DURING WATERFOWL CENSUS</p> |   |                          |                              |                    |                     |                 |                     |                 |  |   |

# INSTRUCTIONS

## Form NR-2 - UPLAND GAME BIRDS\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
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- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\*Only columns applicable to the period covered should be used.

## UPLAND GAME BIRDS

Refuge Ottawa-Cedar Point-West Sister Island Months of September to January 1, 1971  
and Darby

| (1)<br>Species   | (2)<br>Density   | (3)<br>Young<br>Produced |                              |                    | (4)<br>Sex<br>Ratio | (5)<br>Removals |                     |                 | (6)<br>Total                           | (7)<br>Remarks   |
|--|--|--------------------------|------------------------------|--------------------|---------------------|-----------------|---------------------|-----------------|--|--|
| Common Name  | Cover types, total<br>acreage of habitat   | Acres<br>Per<br>Bird     | Number<br>broods<br>observed | Estimated<br>Total | Percentage          | Hunting         | For Re-<br>stocking | For<br>Research | Estimated<br>number<br>using<br>Refuge | Pertinent information not<br>specifically requested.<br>List introductions here. |
| Ring-necked<br>pheasant  | Agriculture -<br>2,000 acres<br>Cattail marsh -<br>4,000 acres<br>Mixed hardwoods -<br>120 acres | 7.6                      |                              |                    | 1M:3F               |                 |                     |                 | 800                                    | Food and cover conditions<br>are excellent.                                      |
| Bob-white<br>quail   | Agriculture -<br>2,000 acres<br>Cattail marsh -<br>4,000 acres<br>Mixed Hardwoods -<br>120 acres | 122                      |                              |                    | Unknown             |                 |                     |                 | 50                                     | Food and cover conditions<br>are excellent.                                      |
| <p>POPULATION ESTIMATES FOR THESE TWO SPECIES<br/>ARE BASED ON OBSERVATIONS MADE DURING WATER-<br/>FOWL CENSUS AND DURING THE MONTHLY DICKEY<br/>BIRD CENSUSES BY THE TOLEDO NATURALISTS</p> |  |                          |                              |                    |                     |                 |                     |                 |  |  |

# INSTRUCTIONS

## Form NR-2 - UPLAND GAME BIRDS\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
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- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\*Only columns applicable to the period covered should be used.

3-1 3  
Form NR-3  
(June 1945)

BI IAME

Refuge Ottawa-Cedar Point-West Sister Island Calendar Year 1970

| (1)<br>Species       | (2)<br>Density   | (3)<br>Young<br>Produced | (4)<br>Removals |                     |      |                 |           | (5)<br>Losses | (6)<br>Introductions |        | (7)<br>Estimated<br>Total Refuge<br>Population |                                    | (8)<br>Sex<br>Ratio |              |
|----------------------|--|--------------------------|-----------------|---------------------|------|-----------------|-----------|---------------|----------------------|--------|--|------------------------------------|---------------------|--------------|
| Common Name          | Cover types, total<br>Acreage of Habitat   | Number                   | Hunting         | For Re-<br>stocking | Sold | For<br>Research | Predation | Disease       | Winter<br>Loss       | Number | Source   | At period<br>of<br>Greatest<br>use | As of<br>Dec.<br>31 |              |
| White-tailed<br>deer | Agriculture - 2,000 acres<br>Cattail - 4,000 acres<br>Mixed hardwoods -<br>120 acres | Unknown                  |                 |                     |      |                 |           |               |                      |        |  | 25                                 | 15                  | Un-<br>known |

Remarks:

Reported by James M. Carroll, Jr., Asst. Manager

# INSTRUCTIONS

## Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

3-175.

Form NN-4

(June 1945)

## SMALL MAMMALS

Refuge Ottawa - Cedar Point - Darby

Year ending April 30, 1970

Page #1 of 2 Pages

| (1)<br>Species                            | (2)<br>Density                            |                        | (3)<br>Removals            |                |                       |                     |                   | (4)<br>Disposition of Furs                   |   |   |                              |              | (5)<br>Total<br>Popula-<br>tion |        |
|---|---|------------------------|----------------------------|----------------|-----------------------|---------------------|-------------------|--|---|---|------------------------------|--------------|---------------------------------|--------|
| Common Name                               | Cover Types & Total<br>Acreage of Habitat | Acres<br>Per<br>Animal | Hunting                    | Fur<br>Harvest | Predator<br>Control * | For Re-<br>stocking | For Re-<br>search | Share Trapping                               |   |   | Total Refuge<br>Furs Shipped | Furs Donated | Furs<br>Destroyed               |        |
|   |   |                        |                            |                |                       |                     |                   | Permit<br>Number                             | Trappers<br>Share                       | Refuge<br>share                         |                              |              |                                 |        |
| Muskrat                                   | 4000 ac. cattail<br>marsh                 | .3                     |                            | 7016           |                       |                     |                   | 1-69<br>2-69<br>3-69<br>4-69<br>5-69<br>6-69 | 798<br>654<br>347<br>559<br>1012<br>137 | 798<br>655<br>348<br>558<br>1012<br>138 |                              |              |                                 | 15,000 |
| Mink                                      | 4000 ac. cattail<br>marsh                 | 40.0                   |                            | 3              |                       |                     |                   | All-69                                       | 3 (50%)                                 | 0 (50%)                                 |                              |              |                                 | 100    |
| Raccoon                                   | 6300 ac. marsh, ag.,<br>and wood          | 21.0                   |                            | 68             |                       |                     |                   | All-69                                       | 100%                                    | 0%                                      |                              |              |                                 | 300    |
| Striped Skunk                             | 6300 ac. marsh, ag.,<br>and wood          | 63.0                   |                            | 5              |                       |                     |                   | All-69                                       | 100%                                    | 0%                                      |                              |              |                                 | 100    |
| Red Fox                                   | 6300 ac. marsh, ag.,<br>and wood          | 126.0                  |                            | 9              |                       |                     |                   | All-69                                       | 100%                                    | 0%                                      |                              |              |                                 | 50     |
| Opossum                                   | 6300 ac. marsh, ag.,<br>and wood          | 31.0                   |                            | 22             |                       |                     |                   | All-69                                       | 100%                                    | 0%                                      |                              |              |                                 | 200    |
| * List removals by Predator Animal Hunter |   |                        | — (CONTINUED ON PAGE #2) — |                |                       |                     |                   |  |   |   |                              |              |                                 |        |

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
- (2) DENSITY: Applies particularly to those species considered in removal programs. Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottom land hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
- (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprime-ness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.

Best possible image.

3-175/  
Form NR-4  
(June 1945)

# SMALL MAMMALS

Refuge Ottawa - Cedar Point - Darby Year ending April 30, 1970

Page #2 of 2 Pages

| (1)<br>Species    | (2)<br>Density                            |                        | (3)<br>Removals |                |                       |                     |                   | (4)<br>Disposition of Furs |                   |                 |                              |              | (5)<br>Total<br>Popula-<br>tion |       |
|-------------------|---|------------------------|-----------------|----------------|-----------------------|---------------------|-------------------|----------------------------|-------------------|-----------------|------------------------------|--------------|---------------------------------|-------|
| Common Name       | Cover Types & Total<br>Acreage of Habitat | Acres<br>Per<br>Animal | Hunting         | Fur<br>Harvest | Predator<br>Control * | For Re-<br>stocking | For Re-<br>search | Share Trapping             |                   |                 | Total Refuge<br>Furs Shipped | Furs Donated | Furs<br>Destroyed               |       |
|                   |   |                        |                 |                |                       |                     |                   | Permit<br>Number           | Trappers<br>Share | Refuge<br>share |                              |              |                                 |       |
| Cottontail Rabbit | 2000 ac. upland, dike,<br>wood            | 1.3                    |                 |                |                       |                     |                   |                            |                   |                 |                              |              |                                 | 1,500 |
| Fox Squirrel      | 250 ac. wood, dike                        | .8                     |                 |                |                       |                     |                   |                            |                   |                 |                              |              |                                 | 300   |
| Red Squirrel      | 250 ac. wood, dike                        | 5.0                    |                 |                |                       |                     |                   |                            |                   |                 |                              |              |                                 | 50    |
| Groundhog         | 2000 ac. hay, dike                        | 1.0                    |                 |                |                       |                     |                   |                            |                   |                 |                              |              |                                 | 2,000 |

\* List removals by Predator Animal Hunter

\* List removals by Predator Animal Hunter

REMARKS:

Reported by James M. Carroll, Jr., Asst. Refuge Manager

## INSTRUCTIONS

Form NR-4 - SMALL MAMMALS (Include data on all species of importance in the management program; i. e., muskrats, beaver, coon, mink, coyote. Data on small rodents may be omitted except for estimated total population of each species considered in control operations.)

- (1) SPECIES: Use correct common name. Example: Striped skunk, spotted skunk, short-tailed weasel, gray squirrel, fox squirrel, white-tailed jackrabbit, etc. (Accepted common names in current use are found in the "Field Book of North American Mammals" by H. E. Anthony and the "Manual of the Vertebrate Animals of the Northeastern United States" by David Starr Jordan.)
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  - (3) REMOVALS: Indicate the total number under each category removed since April 30 of the previous year, including any taken on the refuge by Service Predatory Animal Hunter. Also show any removals not falling under headings listed.
  - (4) DISPOSITION OF FUR: On share-trapped furs list the permit number, trapper's share, and refuge share. Indicate the number of pelts shipped to market, including furs taken by Service personnel. Total number of pelts of each species destroyed because of unprimeness or damaged condition, and furs donated to institutions or other agencies should be shown in the column provided.
  - (5) TOTAL POPULATION: Estimated total population of each species reported on as of April 30.
- REMARKS: Indicate inventory method(s) used, size of sample area(s), introductions, and any other pertinent information not specifically requested.

3-1755

For. R-5  
60701

DISI E

Refuge Ottawa - Cedar Point - West Sister Island Year 1970

## Botulism

## Lead Poisoning or other Disease

Period of outbreak NONE

Period of heaviest losses \_\_\_\_\_

## Losses:

|                | Actual Count | Estimated |
|----------------|--------------|-----------|
| (a) Waterfowl  | _____        | _____     |
| (b) Shorebirds | _____        | _____     |
| (c) Other      | _____        | _____     |

| Number Hospitalized | No. Recovered | % Recovered |
|---------------------|---------------|-------------|
| (a) Waterfowl       | _____         | _____       |
| (b) Shorebirds      | _____         | _____       |
| (c) Other           | _____         | _____       |

Areas affected (location and approximate acreage) \_\_\_\_\_

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease NONE

Species affected \_\_\_\_\_

| Number Affected Species | Actual Count | Estimated |
|-------------------------|--------------|-----------|
| _____                   | _____        | _____     |
| _____                   | _____        | _____     |
| _____                   | _____        | _____     |

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

1-1757  
Form NR-7  
Rev. June 1960)

NONAGRICULTURAL COLLECTION RECEIPTS, AND PLANTINGS

Refuge Ottawa - Cedar Point - West Sister Island Year 19 70

| Species                | Collections and Receipts<br>(Seeds, rootstocks, trees, shrubs) |                     |      |                        |        |                                   | Plantings<br>(Marsh - Aquatic - Upland)                   |                                      |  |                                       |               |            |                  |
|------------------------|--|---------------------|------|------------------------|--------|-----------------------------------|---|--------------------------------------|--|---------------------------------------|---------------|------------|------------------|
|                        | Amount<br>(Lbs.,<br>bus.,<br>etc.)                             | (2)<br>C<br>or<br>R | Date | Method<br>or<br>Source | Cost   | (3)<br>Total<br>Amount<br>on Hand | Location of<br>Area Planted                               | Rate of<br>Seeding<br>or<br>Planting | Amount<br>Planted<br>(Acres or<br>Yards of<br>Shoreline) | Amount and<br>Nature of<br>Propagules | Date          | Survival   | Cause<br>of Loss |
| Kentucky<br>Blue-grass | -  | -                   | -    | On hand                | -      | 0                                 | Around office   | 20#/a.                               | 2 a.   |                                       | Sept.<br>Oct. | 50%        |                  |
| Kentucky<br>31 Fescue  | 1000#  | R                   | 3/70 | Purch.                 | \$295. | 1110#                             | Refuge en-<br>trance road &<br>New dike at<br>Cedar Point | 20#/a.<br>10#/a.                     | 7 a.<br>5 a.   |                                       | Sept.<br>May  | 40%<br>30% |                  |
| Perennial<br>Rye       | 1000#  | R                   | 3/70 | Purch.                 | \$200. | 1300#                             | New dike at<br>Cedar Point                                | 10#/a.                               | 5 a.   |                                       | May           | 30%        |                  |
| Perennial<br>Rye       | 560#   | R                   | 4/70 | Donated                | -      | -                                 | Goose Pen   | 20#/a.                               | 28 a.  |                                       | May           | 20%        | Feeding<br>geese |
| Sericea<br>Lespedeza   | 200#   | R                   | 2/70 | Purch.                 | \$ 60. | 200#                              |   |                                      |  |                                       |               |            |                  |
| Alfalfa<br>(Ranger)    | 500#   | R                   | 2/70 | Purch.                 | \$275. | 500#                              |   |                                      |  |                                       |               |            |                  |
| Clover<br>(Alsike)     | 200#   | R                   | 3/70 | Purch.                 | \$ 60. | 200#                              |   |                                      |  |                                       |               |            |                  |

- (1) Report agronomic farm crops on Form NR-8  
(2) C = Collections and R = Receipts # = Pounds  
(3) Use "S" to denote surplus a. = Acres

Remarks: Purpose of Goose-pen planting was to provide  
cover on bare soil.

Total acreage planted:

Marsh and aquatic  
Hedgerows, cover patches 19  
Food strips, food patches 28  
Forest plantings

3-1758  
Form .8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ottawa-Cedar Point-West Sister Island County Lucas State Ohio

| Cultivated<br>Crops<br>Grown | Permittee's     |          | Government's Share or Return |           |             |           | Total<br>Acreage<br>Planted | Green Manure,<br>Cover and Water-<br>fowl Browsing Crops<br>Type and Kind                       | Total<br>Acreage |
|------------------------------|-----------------|----------|------------------------------|-----------|-------------|-----------|-----------------------------|---|------------------|
|                              | Share Harvested |          | Harvested                    |           | Unharvested |           |                             |   |                  |
|                              | Acres           | Bu./Tons | Acres                        | Bu./ Tons | Acres       | Bu. /Tons |                             |   |                  |
| Corn                         |                 |          |                              |           | 67          | 2,311     | 67                          | Wheat (cover and<br>brouse)   | 205              |
| Sorghum                      |                 |          |                              |           | 69          | 1,125     | 69                          | Wheat (green manure<br>and brouse)  | 235              |
| Buckwheat                    |                 |          |                              |           | 151         | 1,827     | 151                         | Mixture of 30% Ky.<br>31 Fescue, 30%<br>Perennial Rye, 20%<br>Alsike Clover<br>(nesting strips) | 18               |
| Wheat                        | 114             | 2,840    |                              |           |             |           | 235                         | Mixture of 30% Ky.<br>31 Fescue and 50%<br>Perennial Rye<br>(dike erosion control)              | 5                |
| Oats                         | 37              | 4,000    |                              |           |             |           | 37                          |   |                  |
| Soybean                      | 388             | 11,460   |                              |           |             |           | 388                         |   |                  |
|                              |                 |          |                              |           |             |           |                             | Fallow Ag. Land.  |                  |

No. of Permittees: Agricultural Operations 3 Haying Operations 0 Grazing Operations 0

| Hay - Improved<br>(Specify Kind) | Tons<br>Harvested | Acres | Cash<br>Revenue | Grazing                                    | Number<br>Animals | AUM'S | Cash<br>Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
|                                  |                   |       |                 | 1. Cattle                                  |                   |       |                 |         |
|                                  |                   |       |                 | 2. Other                                   |                   |       |                 |         |
|                                  |                   |       |                 | 1. Total Refuge Acreage Under Cultivation  |                   |       |                 | 860     |
| Hay - Wild                       |                   |       |                 | 2. Acreage Cultivated as Service Operation |                   |       |                 |         |

DIRECTIONS FOR PREPARING FORM NR--8'  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-1758  
Form -8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ottawa-Cedar Point-West Sister Island County Ottawa State Ohio

| Cultivated Crops Grown | Permittee's Share Harvested |          | Government's Share or Return |          |                   |          | Total Acreage Planted | Green Manure, Cover and Water-fowl Browsing Crops Type and Kind | Total Acreage |
|------------------------|-----------------------------|----------|------------------------------|----------|-------------------|----------|-----------------------|---|---------------|
|                        | Acres                       | Bu./Tons | Harvested Acres              | Bu./Tons | Unharvested Acres | Bu./Tons |                       |   |               |
| Corn                   |                             |          |                              |          | 63                | 2,142    | 63                    | Wheat (cover and brouse)  | 174           |
| Sorghum                |                             |          |                              |          | 84                | 2,520    | 84                    |   |               |
| Buckwheat              |                             |          |                              |          | 158               | 2,844    | 158                   | Wheat (green manure and brouse)                                 | 257           |
| Wheat                  | 91                          | 1,870    |                              |          |                   |          | 91                    |   |               |
| Soybean                | 451                         | 11,970   |                              |          |                   |          | 451                   |   |               |
| Oats                   | 10                          | 300      |                              |          |                   |          | 10                    |   |               |
|                        |                             |          |                              |          |                   |          |                       | Fallow Ag. Land.  |               |

No. of Permittees: Agricultural Operations 8 Haying Operations 0 Grazing Operations 0

| Hay - Improved (Specify Kind) | Tons Harvested | Acres | Cash Revenue | Grazing                                    | Number Animals | AUM'S | Cash Revenue | ACREAGE |
|-------------------------------|----------------|-------|--------------|--|----------------|-------|--------------|---------|
|                               |                |       |              | 1. Cattle                                  |                |       |              |         |
|                               |                |       |              | 2. Other                                   |                |       |              |         |
|                               |                |       |              | 1. Total Refuge Acreage Under Cultivation  |                |       |              | 1,006   |
| Hay - Wild                    |                |       |              | 2. Acreage Cultivated as Service Operation |                |       |              |         |

DIRECTIONS FOR PREPARING FORM NR--8'  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

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Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting.

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

# REFUGE GRAIN REPORT

Refuge Ottawa-Cedar Point-West Sister Island

Months of January through December, 1970

| (1)<br>VARIETY* | (2)<br>ON HAND<br>BEGINNING<br>OF PERIOD<br>Bushels | (3)<br>RECEIVED<br>DURING<br>PERIOD<br>Bushels | (4)<br>TOTAL<br>Bushels | (5)<br>GRAIN DISPOSED OF |        |                |                  | (6)<br>ON HAND<br>END OF<br>PERIOD<br>Bushels | (7)<br>PROPOSED OR SUITABLE USE* |                 |         |
|-----------------|---|--|-------------------------|--------------------------|--------|----------------|------------------|---|----------------------------------|-----------------|---------|
|                 |   |  |                         | Transferred              | Seeded | Fed<br>Bushels | Total<br>Bushels |   | Seed<br>Bushels                  | Feed<br>Bushels | Surplus |
| Buckwheat       | 11  | 0  | 11                      |                          |        | 1              | 1                | 10  | 10                               |                 |         |
| Shelled corn    | 170   | 540  | 710                     |                          |        | 560            | 560              | 150   |                                  | 150             |         |
| Grain Sorghum   | 3   | 0  | 3                       |                          |        |                |                  | 3   | (outdated - to be destroyed)     |                 |         |
| Japanese millet | 4   | 0  | 4                       |                          |        |                |                  | 4   | 4                                |                 |         |
| Proso millet    | 5   | 0  | 5                       |                          |        |                |                  | 5   |                                  | 5               |         |
| Rye             | 139   | 0  | 139                     |                          |        | 69             | 69               | 70  |                                  | 70              |         |
| Corn            | 14  | 0  | 14                      |                          |        |                |                  | 14  | (outdated - to be destroyed)     |                 |         |

(8) Indicate shipping or collection points Shelled corn was picked up from Shiawassee Refuge and used in banding program.

(9) Grain is stored at Ottawa Refuge/

(10) Remarks \_\_\_\_\_

\*See instructions on back.

## REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

**Report all grain in bushels.** For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (2) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (3) A total of columns 2 and 3.
- (4) Column 4 less column 5.
- (5) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (6) Nearest railroad station for shipping and receiving.
- (7) Where stored on refuge: "Headquarters granary," etc.
- (8) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

Refuge Ottawa - Cedar Point - West Sister Island Year ~~195~~ <sup>196</sup> 1970

| Permittee | Permit No. | Unit or Location | Acreage | No. of Units Expressed in B. F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut |
|-----------|------------|------------------|---------|---|----------------|--------------|-------------------------------------|-------------|
|           |            |                  |         | NOTHING TO REPORT                           |                |              |                                     |             |

Total acreage cut over.....

Total income.....

No. of units removed B. F. ....

Method of slash disposal.....

Cords.....

Ties.....

## ANNUAL REPORT OF PERSTICIDE APPLICATION

Refuge

Ottawa - Cedar Point -  
West Sister Island

|  |                 |
|--|-----------------|
|  | Proposal Number |
|--|-----------------|

| Reporting Year |
|----------------|
|----------------|

1970

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used   | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|------------------------|------------------------|--------------------------|---------------------|--------------------|----------------------------------|------------------|------------------|-----------------------|
| (1)                    | (2)                    | (3)                      | (4)                 | (5)                | (6)                              | (7)              | (8)              | (9)                   |
|                        |                        | <u>N O T H I N G</u>     | <u>T O</u>          | <u>R E P O R T</u> |                                  |                  |                  |                       |

10. Summary of results (continue on reverse side, if necessary)

3-1750a

Cont. NR-1

(Rev. March 1953)

WATERFOWL  
(Continuation Sheet)REFUGE Ottawa - Cedar Point - DarbyMONTHS OF September TO January 1, 1971

|                         |        | (2) Weeks of reporting period |        |        |        |        |        |       | (3) Estimated | (4) Production |
|-------------------------|--------|-------------------------------|--------|--------|--------|--------|--------|-------|---------------|----------------|
| (1) Week of             | 11/08  | 11/15                         | 11/22  | 11/29  | 12/06  | 12/13  | 12/20  | 12/27 | waterfowl     | Broods         |
| Species                 | 11     | 12                            | 13     | 14     | 15     | 16     | 17     | 18    | days use      | seen           |
| <b>Swans:</b>           |        |                               |        |        |        |        |        |       |               |                |
| Whistling               |        | 19                            | 52     | 57     | 57     | 25     |        |       | 1,470         |                |
| Trumpeter               |        |                               |        |        |        |        |        |       |               |                |
| <b>Geese:</b>           |        |                               |        |        |        |        |        |       |               |                |
| Canada                  | 20,000 | 10,500                        | 5,000  | 8,850  | 8,850  | 14,000 | 14,000 | 3,500 | 973,207       |                |
| Cackling                |        |                               |        |        |        |        |        |       |               |                |
| Brant                   |        |                               |        |        |        |        |        |       |               |                |
| White-fronted           |        |                               |        |        |        |        |        |       |               |                |
| Snow                    | 50     | 20                            | 20     | 50     | 50     | 50     |        |       | 3,010         |                |
| Blue                    | 300    | 130                           | 130    | 300    | 300    | 300    |        |       | 17,850        |                |
| <b>Other</b>            | 20,350 | 10,650                        | 5,150  | 9,200  | 9,200  | 14,350 | 14,000 | 3,500 | 994,067       |                |
| <b>Ducks:</b>           |        |                               |        |        |        |        |        |       |               |                |
| Mallard                 | 25,000 | 16,000                        | 16,000 | 12,000 | 14,000 | 25,000 | 25,000 | 1,000 | 1,605,675     |                |
| Black                   | 5,000  | 5,000                         | 7,000  | 7,000  | 10,000 | 15,000 | 15,000 | 4,000 | 614,275       |                |
| Gadwall                 | 100    | 100                           | 100    | 100    | 100    | 100    | 100    |       | 13,365        |                |
| Baldpate                | 1,000  | 1,000                         | 400    | 100    | 100    | 1,000  | 1,000  |       | 88,270        |                |
| Pintail                 | 1,200  | 1,000                         | 400    | 100    | 100    | 500    | 500    |       | 64,785        |                |
| Green-winged teal       | 30     | 15                            | 15     | 50     | 50     |        |        |       | 21,525        |                |
| Blue-winged teal        | 200    | 100                           | 100    | 100    | 100    | 100    | 100    |       | 111,200       |                |
| Cinnamon teal           |        |                               |        |        |        |        |        |       |               |                |
| Shoveler                | 300    | 150                           | 100    | 50     | 50     | 50     | 50     |       | 18,620        |                |
| Wood                    | 800    | 550                           | 100    | 50     | 50     | 50     | 50     |       | 87,430        |                |
| Redhead                 | 250    | 250                           | 150    | 50     | 50     | 50     | 50     |       | 13,020        |                |
| Ring-necked             | 100    | 100                           | 50     |        |        |        |        |       | 4,760         |                |
| Canvasback              | 50     | 40                            | 40     |        |        |        |        |       | 2,345         |                |
| Scaup                   | 330    | 300                           | 200    | 100    | 100    | 500    | 500    |       | 20,160        |                |
| Goldeneye               | 20     | 20                            | 20     | 50     | 50     | 50     | 50     |       | 2,870         |                |
| Bufflehead              | 20     | 55                            | 55     |        |        |        |        |       | 4,935         |                |
| Ruddy                   | 600    | 250                           | 200    | 100    | 100    | 200    | 200    |       | 22,750        |                |
| <b>Common Merganser</b> |        | 70                            | 70     | 250    | 250    | 2,400  | 2,400  |       | 38,080        |                |
| <b>TOTAL</b>            |        |                               |        |        |        |        |        |       |               |                |
|                         | 35,000 | 25,000                        | 25,000 | 20,000 | 25,000 | 45,000 | 45,000 | 5,000 | 2,764,065     |                |
| <b>Coots:</b>           |        |                               |        |        |        |        |        |       |               |                |
|                         | 6,000  | 2,000                         | 2,000  |        | (over) |        |        |       | 426,500       |                |

| (5)              | (6)           | (7)                |
|------------------|---------------|--------------------|
| Total Days Use : | Peak Number : | Total Production : |
| Swans 1,470      | 57            |                    |
| Geese 994,067    | 22,176        |                    |
| Ducks 2,764,065  | 45,000        |                    |
| Coots 426,500    | 10,000        |                    |

**SUMMARY**

Principal feeding areas Harvested soybean fields and buckwheat fields, Canada Geese fed principally on (greens) winter wheat, rye and what corn was available on the refuge.

Principal nesting areas

Reported by James M. Carroll, Jr., Assistant Manager

Reported by James M. Carroll, Jr., Assistant Manager

INSTRUCTIONS (See Secs. 7531 through 7534, Wildlife Refuges Field Manual)

- |                                   |   |
|-----------------------------------|---|
| (1) Species:                      | In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and national significance.                        |
| (2) Weeks of Reporting Period:    | Estimated average refuge populations.   |
| (3) Estimated Waterfowl Days Use: | Average weekly populations x number of days present for each species.   |
| (4) Production:                   | Estimated number of young produced based on observations and actual counts on representative breeding areas. Brood counts should be made on two or more areas aggregating 10% of the breeding habitat. Estimates having no basis in fact should be omitted. |
| (5) Total Days Use:               | A summary of data recorded under (3).   |
| (6) Peak Number:                  | Maximum number of waterfowl present on refuge during any census of reporting period.  |
| (7) Total Production:             | A summary of data recorded under (4).   |

W A T E R F O W L

REFUGE Ottawa - Cedar Point - Darby

MONTHS OF September TO January 1, 1971

| (1)<br>Species         | (2)<br>Weeks of reporting period |              |              |              |              |              |              |              |              |               |
|------------------------|----------------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|
|                        | Week of : 09/01<br>1             | : 09/06<br>2 | : 09/13<br>3 | : 09/20<br>4 | : 09/27<br>5 | : 10/04<br>6 | : 10/11<br>7 | : 10/18<br>8 | : 10/25<br>9 | : 11/01<br>10 |
| Swans:                 |                                  |              |              |              |              |              |              |              |              |               |
| Whistling              |                                  |              |              |              |              |              |              |              |              |               |
| Trumpeter              |                                  |              |              |              |              |              |              |              |              |               |
| Geese:                 |                                  |              |              |              |              |              |              |              |              |               |
| Canada                 | 775                              | 775          | 775          | 1,000        | 7,000        | 4,000        | 5,300        | 6,500        | 8,000        | 21,426        |
| Cackling               |                                  |              |              |              |              |              |              |              |              |               |
| Brant                  |                                  |              |              |              |              |              |              |              |              |               |
| White-fronted          |                                  |              |              |              |              |              |              |              |              |               |
| Snow                   |                                  |              |              |              | 5            | 5            | 5            | 50           | 50           | 75            |
| Blue                   |                                  |              |              |              | 5            | 5            | 5            | 200          | 200          | 675           |
| <del>Other</del> TOTAL | 775                              | 775          | 775          | 1,000        | 7,010        | 4,010        | 5,310        | 6,750        | 8,250        | 22,176        |
| Ducks:                 |                                  |              |              |              |              |              |              |              |              |               |
| Mallard                | 5,135                            | 6,500        | 6,500        | 8,000        | 10,000       | 10,000       | 10,000       | 8,000        | 15,000       | 18,000        |
| Black                  | 2,565                            | 1,500        | 1,500        | 1,500        | 1,000        | 750          | 1,700        | 2,500        | 5,900        | 7,000         |
| Gadwall                | 20                               | 20           | 140          | 210          | 225          | 50           | 50           | 150          | 150          | 4,000         |
| Baldpate               | 98                               | 170          | 170          | 200          | 250          | 200          | 1,250        | 3,000        | 500          | 2,200         |
| Pintail                | 112                              | 175          | 200          | 250          | 250          | 150          | 150          | 800          | 800          | 2,600         |
| Green-winged teal      | 315                              | 300          | 300          | 475          | 500          | 200          | 200          | 400          | 165          | 150           |
| Blue-winged teal       | 4,460                            | 3,700        | 1,800        | 1,500        | 1,500        | 750          | 750          | 1,100        | 400          | 400           |
| Cinnamon teal          |                                  |              |              |              |              |              |              |              |              |               |
| Shoveler               | 35                               | 35           | 100          | 100          | 150          | 100          | 100          | 450          | 350          | 500           |
| Wood                   | 1,610                            | 1,700        | 1,500        | 1,500        | 990          | 660          | 660          | 880          | 800          | 1,000         |
| Redhead                |                                  |              |              |              |              | 20           | 20           | 70           | 100          | 800           |
| Ring-necked            |                                  |              |              |              |              |              |              | 30           | 50           | 350           |
| Canvasback             |                                  |              |              |              |              |              |              | 45           | 60           | 100           |
| Scaup                  |                                  |              |              |              | 10           | 20           | 20           | 175          | 225          | 400           |
| Goldeneye              |                                  |              |              |              |              |              |              |              |              | 150           |
| Bufflehead             |                                  |              |              |              | 75           | 50           | 50           | 100          | 100          | 200           |
| Ruddy                  |                                  |              |              |              | 50           | 50           | 50           | 300          | 400          | 750           |
| Other                  |                                  |              |              |              |              |              |              |              |              |               |
| TOTAL                  | 14,350                           | 14,100       | 12,210       | 13,735       | 15,000       | 13,000       | 15,000       | 18,000       | 25,000       | 35,000        |
| Coot:                  | 1,300                            | 1,500        | 1,700        | 2,100        | 4,000        | 5,500        | 7,000        | 8,200        | 10,000       | 10,000        |

MIGRATORY BIRDS  
(other than waterfowl)

Refuge Ottawa - Cedar Point - and Months of September to January 1, ~~1968~~ 1971  
West Sister Island

| (1)<br>Species                   | (2)<br>First Seen |      | (3)<br>Peak Numbers |      | (4)<br>Last Seen |      | (5)<br>Production |               |             | (6)<br>Total     |
|----------------------------------|-------------------|------|---------------------|------|------------------|------|-------------------|---------------|-------------|------------------|
| Common Name                      | Number            | Date | Number              | Date | Number           | Date | Number Colonies   | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u> |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
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|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |
|                                  |                   |      |                     |      |                  |      |                   |               |             |                  |

| (1)   | (2)                    | (3)     | (4) | (5)   | (6) |
|---|------------------------|---------|-----|-------|-----|
| III. <u>Doves and Pigeons:</u>                          |                        |         |     |       |     |
| Mourning dove   |                        |         |     |       |     |
| White-winged dove                                       |                        |         |     |       |     |
| IV. <u>Predaceous Birds:</u>                            | CONTINUATION - PAGE #2 |         |     |       |     |
| Golden eagle  |                        |         |     |       |     |
| Duck hawk   |                        |         |     |       |     |
| Horned owl  |                        |         |     |       |     |
| Magpie  |                        |         |     |       |     |
| Raven   |                        |         |     |       |     |
| Crow  |                        |         |     |       |     |
| Sparrow Hawk  | 3                      | Present | 7   | 12/15 | 7   |
| Screech Owl   | 1                      | 12/15   | 1   | 12/15 | 1   |
| Short-eared Owl   | -2                     | 12/15   | 2   | 12/15 | 2   |
| Reported by <u>James M. Carroll, Jr., Asst. Manager</u> |                        |         |     |       |     |

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)
- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

| (1) L   | (2)  | (3)     | (4)  | (5)      | (6)     |
|---|------|---------|------|----------|---------|
| III. <u>Doves and Pigeons:</u>                    |      |         |      |          |         |
| Mourning dove                                     | 1000 | Present | 1000 | 9/15     | 68      |
| White-winged dove                                 |      |         |      | Present  | 3000    |
| IV. <u>Predaceous Birds:</u>                      |      |         |      |          |         |
| Golden eagle                                      |      |         |      |          |         |
| Duck hawk   |      |         |      |          |         |
| Horned owl  | 10   | Present | 10   | Resident | 10      |
| Magpie  |      |         |      |          |         |
| Raven   |      |         |      |          |         |
| Crow  | 5    | Present | 5    | 9/15     | 25      |
| Turkey Vulture                                    | 5    | Present | 1    | 9/15     | 10      |
| Coopers Hawk                                      | 2    | 12/15   | 2    | 12/15    | 10      |
| Red-tailed Hawk                                   | 3    | Present | 39   | 12/15    | Present |
| Rough-legged Hawk                                 | 10   | Present | 32   | 12/15    | Present |
| Bald Eagle  | 6    | Present | 6    | Resident | Present |
| Marsh Hawk  | 2    | Present | 11   | 12/15    | Present |
| Reported by James M. Carroll, Jr., Asst. Manager. |      |         |      |          |         |

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

(2) First Seen: The first refuge record for the species for the season concerned.

(3) Peak Numbers: The greatest number of the species present in a limited interval of time.

(4) Last Seen: The last refuge record for the species during the season concerned.

(5) Production: Estimated number of young produced based on observations and actual counts.

(6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1751

Form NR-1A

(Nov. 1945)

Page #1 of 2 Pages

## MIGRATORY BIRDS

(other than waterfowl)

Refuge... Ottawa - Cedar Point - and  
West Sister IslandMonths of... September... to... January 1, 1971

| (1)<br>Species                          | (2)<br>First Seen |         | (3)<br>Peak Numbers |       | (4)<br>Last Seen |         | (5)<br>Production |               |             | (6)<br>Total     |
|---|-------------------|---------|---------------------|-------|------------------|---------|-------------------|---------------|-------------|------------------|
| Common Name                             | Number            | Date    | Number              | Date  | Number           | Date    | Number Colonies   | Total # Nests | Total Young | Estimated Number |
| I. <u>Water and Marsh Birds:</u>        |                   |         |                     |       |                  |         |                   |               |             |                  |
| Pied-billed Grebe                       | 16                | Present | 16                  | 9/15  | 7                | 11/15   |                   |               |             | 30               |
| Great Blue Heron                        | 2000              | Present | 2000                | 9/15  | 51               | Present |                   |               |             | 7000             |
| Green Heron                             | 11                | Present | 17                  | 9/05  | 17               | 9/05    |                   |               |             | 50               |
| Cattle Egret                            | 4                 | 9/22    | 4                   | 9/22  | 2                | 10/04   |                   |               |             | 4                |
| Common Egret                            | 1100              | Present | 1100                | 9/15  | 1                | 12/05   |                   |               |             | 4000             |
| Black-crowned Night Heron               | 1600              | Present | 1600                | 9/15  | 1                | 11/01   |                   |               |             | 3500             |
| Least Bittern                           | 2                 | 9/05    | 2                   | 9/05  | 2                | 9/05    |                   |               |             | 15               |
| King Rail                               | 1                 | 10/04   | 1                   | 10/04 | 1                | 10/04   |                   |               |             | 1                |
| Sora                                    | 24                | 9/05    | 24                  | 9/05  | 1                | 10/04   |                   |               |             | 50               |
| Common Gallinule                        | 1                 | Present | 1                   | 9/15  | 1                | 9/15    |                   |               |             | 10               |
| II. <u>Shorebirds, Gulls and Terns:</u> |                   |         |                     |       |                  |         |                   |               |             |                  |
| Semipalmated Plover                     | 8                 | Present | 8                   | 9/15  | 8                | 9/15    |                   |               |             | 16               |
| Killdeer                                | 50                | Present | 62                  | 9/05  | 1                | 12/06   |                   |               |             | 150              |
| American Golden Plover                  | 5                 | 9/05    | 5                   | 9/05  | 5                | 9/05    |                   |               |             | 10               |
| Black-bellied Plover                    | 8                 | 9/05    | 8                   | 9/05  | 2                | 10/04   |                   |               |             | 20               |
| Ruddy Turnstone                         | 12                | Present | 12                  | 9/15  | 12               | 9/15    |                   |               |             | 25               |
| American Woodcock                       | 150               | Present | 150                 | 9/15  | 150              | 9/15    |                   |               |             | 300              |
| Common Snipe                            | 2                 | Present | 18                  | 10/04 | 18               | 10/04   |                   |               |             | 50               |
| Upland Plover                           | 3                 | Present | 3                   | 9/15  | 3                | 9/15    |                   |               |             | 10               |
| Spotted Sandpiper                       | 7                 | Present | 7                   | 9/15  | 7                | 9/15    |                   |               |             | 20               |
| Solitary Sandpiper                      | 2                 | Present | 2                   | 9/15  | 2                | 9/15    |                   |               |             | 10               |
| Greater Yellowlegs                      | 11                | Present | 14                  | 9/05  | 9                | 11/01   |                   |               |             | 30               |
| Lesser Yellowlegs                       | 31                | Present | 31                  | 9/15  | 1                | 11/01   |                   |               |             | 60               |
| Pectoral Sandpiper                      | 9                 | Present | 21                  | 9/05  | 1                | 11/01   |                   |               |             | 40               |
| Least Sandpiper                         | 11                | Present | 12                  | 9/05  | 1                | 11/01   |                   |               |             | 25               |

- CONTINUED ON PAGE #2 -

(over)

Page #1 of 2 Pages

| (1) L   | (2)  | (3)     | (4)  | (5)      | (6) |
|---|------|---------|------|----------|-----|
| III. <u>Doves and Pigeons:</u>                    |      |         |      |          |     |
| Mourning dove                                     | 1000 | Present | 1000 | 9/15     | 68  |
| White-winged dove                                 |      |         |      | Present  |     |
| IV. <u>Predaceous Birds:</u>                      |      |         |      |          |     |
| Golden eagle                                      |      |         |      |          |     |
| Duck hawk   |      |         |      |          |     |
| Horned owl  | 10   | Present | 10   | Resident | 10  |
| Magpie  |      |         |      |          |     |
| Raven   |      |         |      |          |     |
| Crow  | 5    | Present | 5    | 9/15     | 5   |
| Turkey Vulture                                    | 5    | Present | 1    | 9/15     | 1   |
| Coopers Hawk                                      | 2    | 12/15   | 2    | 12/15    | 2   |
| Red-tailed Hawk                                   | 3    | Present | 39   | 12/15    | 39  |
| Rough-legged Hawk                                 | 10   | Present | 32   | 12/15    | 32  |
| Bald Eagle  | 6    | Present | 6    | Resident | 6   |
| Marsh Hawk  | 2    | Present | 11   | 12/15    | 11  |
| Reported by James M. Carroll, Jr., Asst. Manager. |      |         |      |          |     |

## INSTRUCTIONS

- (1) Species: Use the correct names as found in the A.O.U. Checklist, 1931 Edition, and list group in A.O.U. order. Avoid general terms as "seagull", "tern", etc. In addition to the birds listed on form, other species occurring on refuge during the reporting period should be added in appropriate spaces. Special attention should be given to those species of local and National significance. Groups: I. Water and Marsh Birds (Gaviiformes to Ciconiiformes and Gruiformes)  
 II. Shorebirds, Gulls and Terns (Charadriiformes)  
 III. Doves and Pigeons (Columbiformes)  
 IV. Predaceous Birds (Falconiformes, Strigiformes and predaceous Passeriformes)

- (2) First Seen: The first refuge record for the species for the season concerned.
- (3) Peak Numbers: The greatest number of the species present in a limited interval of time.
- (4) Last Seen: The last refuge record for the species during the season concerned.
- (5) Production: Estimated number of young produced based on observations and actual counts.
- (6) Total: Estimated total number of the species using the refuge during the period concerned.

3-1750c  
Form NR-1C  
(Sept. 1960)

Waterfowl Hunter Kill Survey

Refuge Ottawa - Cedar Point - West Sister Island

1970  
Year 1969

| (1)<br>Weeks of<br>Hunting | (2)<br>No. Hunters<br>Checked | (3)<br>Hunter<br>Hours | (4)<br>Waterfowl Species and Nos. of Each Bagged | (5)<br>Total<br>Bagged | (6)<br>Crippling<br>Loss | (7)<br>Total<br>Kill | (8)<br>Est.No.<br>Hunters | (9)<br>Est. Total<br>Kill |
|----------------------------|-------------------------------|------------------------|--|------------------------|--------------------------|----------------------|---------------------------|---------------------------|
|                            |                               |                        | <p><b>NOTHING TO REPORT</b></p> <p>*****</p>     |                        |                          |                      |                           |                           |

(over)

# INSTRUCTIONS

- (1) The first week of hunting begins with opening day and ends at the close of hunting 6 days later. Successive weeks follow the same pattern.
- (2) The goal is to survey a minimum of 25 percent of refuge hunters each week and to record data only from those who have completed their day's hunting. This information should be collected during each day of the week and in each area hunted in relative proportion to the hunter effort expended. When the 25 percent goal cannot be achieved, particular care should be taken to collect representative data.
- (3) Record the total number of hours the hunters spent hunting on the refuge.
- (4) List waterfowl species in decreasing order of numbers bagged. Sample entry: Mallard (61), Pintail (36), Redhead (16), Gadwall (11), Widgeon (6), Coot (4), Canada Goose (3), Green-winged Teal (1).
- (5) Record total numbers of waterfowl bagged.
- (6) Record total numbers of waterfowl reported knocked down but not recovered.
- (7) Total of Columns 5 and 6.
- (8) Estimate the total number of hunters who hunted on the refuge during the week, including hunters checked (Column 2).
- (9) Kill sample projected to 100 percent.  $\text{Column 9} = \frac{\text{Column 8}}{\text{Column 2}} \times \text{Column 7}.$

80348-60

(over)

3-1752  
Form NR-2  
(April 1946)

# UPLAND GAME BIRDS

Refuge Ottawa-Cedar Point-West Sister Island Months of September to January 1, 1971  
and Darby

| (1)<br>Species   | (2)<br>Density   | (3)<br>Young<br>Produced |                              |                    | (4)<br>Sex<br>Ratio | (5)<br>Removals |                     |                 | (6)<br>Total                           | (7)<br>Remarks   |
|--|--|--------------------------|------------------------------|--------------------|---------------------|-----------------|---------------------|-----------------|--|--|
| Common Name  | Cover types, total<br>acreage of habitat   | Acres<br>Per<br>Bird     | Number<br>broods<br>observed | Estimated<br>Total | Percentage          | Hunting         | For Re-<br>stocking | For<br>Research | Estimated<br>number<br>using<br>Refuge | Pertinent information not<br>specifically requested.<br>List introductions here. |
| Ring-necked<br>pheasant  | Agriculture -<br>2,000 acres<br>Cattail marsh -<br>4,000 acres<br>Mixed hardwoods -<br>120 acres | 7.6                      |                              |                    | 1M:3F               |                 |                     |                 | 800                                    | Food and cover conditions<br>are excellent.                                      |
| Bob-white<br>quail   | Agriculture -<br>2,000 acres<br>Cattail marsh -<br>4,000 acres<br>Mixed Hardwoods -<br>120 acres | 122                      |                              |                    | Unknown             |                 |                     |                 | 50                                     | Food and cover conditions<br>are excellent.                                      |
| POPULATION ESTIMATES FOR THESE TWO SPECIES<br>ARE BASED ON OBSERVATIONS MADE DURING WATER-<br>FOWL CENSUS AND DURING THE MONTHLY DICKHY<br>BIRD CENSUSES BY THE TOLEDO NATURALISTS |  |                          |                              |                    |                     |                 |                     |                 |  |  |

# INSTRUCTIONS

Form NR-2 - UPLAND GAME BIRDS\*

- (1) SPECIES: Use correct common name.
- (2) DENSITY: Applies particularly to those species considered in removal programs (public hunts, etc.). Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge; once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated number of young produced, based upon observations and actual counts in representative breeding habitat.
- (4) SEX RATIO: This column applies primarily to wild turkey, pheasants, etc. Include data on other species if available.
- (5) REMOVALS: Indicate total number in each category removed during the report period.
- (6) TOTAL: Estimated total number using the refuge during the report period. This may include resident birds plus those migrating into the refuge during certain seasons.
- (7) REMARKS: Indicate method used to determine population and area covered in survey. Also include other pertinent information not specifically requested.

\*Only columns applicable to the period covered should be used.

3-1753  
Form NR-3  
(June 1945)

# BIG GAME

Refuge Ottawa-Cedar Point-West Sister Island Calendar Year 1970

| (1)<br>Species       | (2)<br>Density   | (3)<br>Young<br>Produced | (4)<br>Removals |                     |      |                 | (5)<br>Losses |         |                | (6)<br>Introductions | (7)<br>Estimated<br>Total Refuge<br>Population |                     | (8)<br>Sex<br>Ratio |
|----------------------|--|--------------------------|-----------------|---------------------|------|-----------------|---------------|---------|----------------|----------------------|--|---------------------|---------------------|
|                      |  |                          | Hunting         | For Re-<br>stocking | Sold | For<br>Research | Predation     | Disease | Winter<br>Loss |                      | At period<br>of<br>Greatest<br>use             | As of<br>Dec.<br>31 |                     |
| Common Name          | Cover types, total<br>Acreage of Habitat   | Number                   |                 |                     |      |                 |               |         |                | Number               | Source   |                     |                     |
| White-tailed<br>deer | Agriculture - 2,000 acres<br>Cattail - 4,000 acres<br>Mixed hardwoods -<br>120 acres | Unknown                  |                 |                     |      |                 |               |         |                |                      | 25   | 15                  | Un-<br>known        |

Remarks:

*James M. Carroll, Jr.*  
Reported by James M. Carroll, Jr., Asst. Manager

# INSTRUCTIONS

## Form NR-3 - BIG GAME

- (1) SPECIES: Use correct common name; i.e., Mule deer, black-tailed deer, white-tailed deer. It is unnecessary to indicate sub-species such as northern or Louisiana white-tailed deer.
- (2) DENSITY: Detailed data may be omitted for species occurring in limited numbers. Density to be expressed in acres per animal by cover types. This information is to be prefaced by a statement from the refuge manager as to the number of acres in each cover type found on the refuge: once submitted, this information need not be repeated except as significant changes occur in the area of cover types. Cover types should be detailed enough to furnish the desired information but not so much as to obscure the general picture. Examples: spruce swamp, upland hardwoods, reverting agriculture land, bottomland hardwoods, short grass prairie, etc. Standard type symbols listed in Wildlife Management Series No. 7 should be used where possible. Figures submitted should be based on actual observations and counts on representative sample areas. Survey method used and size of sample area or areas should be indicated under Remarks.
- (3) YOUNG PRODUCED: Estimated total number of young produced on refuge.
- (4) REMOVALS: Indicate total number in each category removed during the year.
- (5) LOSSES: On the basis of known records or reliable estimates indicate total losses in each category during the year.
- (6) INTRODUCTIONS: Indicate the number and refuge or agency from which stock was secured.
- (7) TOTAL REFUGE POPULATION: Give the estimated population of each species on the refuge at period of its greatest abundance and also as of Dec. 31.
- (8) SEX RATIO: Indicate the percentage of males and females of each species as determined from field observations or through removals.

DISEASE

Refuge Ottawa - Cedar Point - West Sister Island Year 1970

Botulism

Lead Poisoning or other Disease

Period of outbreak NONE

Period of heaviest losses \_\_\_\_\_

Losses:

|                | Actual Count | Estimated |
|----------------|--------------|-----------|
| (a) Waterfowl  | _____        | _____     |
| (b) Shorebirds | _____        | _____     |
| (c) Other      | _____        | _____     |

| Number Hospitalized | No. Recovered | % Recovered |
|---------------------|---------------|-------------|
| (a) Waterfowl       | _____         | _____       |
| (b) Shorebirds      | _____         | _____       |
| (c) Other           | _____         | _____       |

Areas affected (location and approximate acreage) \_\_\_\_\_

Water conditions (average depth of water in sickness areas, reflooding of exposed flats, etc.) \_\_\_\_\_

Condition of vegetation and invertebrate life \_\_\_\_\_

Remarks \_\_\_\_\_

Kind of disease NONE

Species affected \_\_\_\_\_

| Number Affected<br>Species | Actual Count | Estimated |
|----------------------------|--------------|-----------|
| _____                      | _____        | _____     |
| _____                      | _____        | _____     |
| _____                      | _____        | _____     |

Number Recovered \_\_\_\_\_

Number lost \_\_\_\_\_

Source of infection \_\_\_\_\_

Water conditions \_\_\_\_\_

Food conditions \_\_\_\_\_

Remarks \_\_\_\_\_

1-1757  
Form NR-7  
Rev. June 1960)

NONAGRICULTURAL COLLECTIONS, RECEIPTS, AND PLANTINGS

(1)

Refuge Ottawa - Cedar Point - West Sister Island Year 19 70

|                        | Collections and Receipts<br>(Seeds, rootstocks, trees, shrubs) |                     |      |                        |        |                                   | Plantings<br>(Marsh - Aquatic - Upland)                   |                                      |  |                                       |               |            |                  |
|------------------------|--|---------------------|------|------------------------|--------|-----------------------------------|---|--------------------------------------|--|---------------------------------------|---------------|------------|------------------|
|                        | Amount<br>(Lbs.,<br>bus.,<br>etc.)                             | (2)<br>C<br>or<br>R | Date | Method<br>or<br>Source | Cost   | (3)<br>Total<br>Amount<br>on Hand | Location of<br>Area Planted                               | Rate of<br>Seeding<br>or<br>Planting | Amount<br>Planted<br>(Acres or<br>Yards of<br>Shoreline) | Amount and<br>Nature of<br>Propagules | Date          | Survival   | Cause<br>of Loss |
| Kentucky<br>Blue-grass | -  | -                   | -    | On hand                | -      | 0                                 | Around office   | 20#/a.                               | 2 a.   |                                       | Sept.<br>Oct. | 50%        |                  |
| Kentucky<br>31 Fescue  | 1000#  | R                   | 3/70 | Purch.                 | \$295. | 1110#                             | Refuge en-<br>trance road &<br>New dike at<br>Cedar Point | 20#/a.<br>10#/a.                     | 7 a.<br>5 a.   |                                       | Sept.<br>May  | 40%<br>30% |                  |
| Perennial<br>Rye       | 1000#  | R                   | 3/70 | Purch.                 | \$200. | 1300#                             | New dike at<br>Cedar Point                                | 10#/a.                               | 5 a.   |                                       | May           | 30%        |                  |
| Perennial<br>Rye       | 560#   | R                   | 4/70 | Donated                | -      | -                                 | Goose Pen   | 20#/a.                               | 28 a.  |                                       | May           | 20%        | Feeding<br>geese |
| Sericea<br>Lespedeza   | 200#   | R                   | 2/70 | Purch.                 | \$ 60. | 200#                              |   |                                      |  |                                       |               |            |                  |
| Alfalfa<br>(Ranger)    | 500#   | R                   | 2/70 | Purch.                 | \$275. | 500#                              |   |                                      |  |                                       |               |            |                  |
| Clover<br>(Alsike)     | 200#   | R                   | 3/70 | Purch.                 | \$ 60. | 200#                              |   |                                      |  |                                       |               |            |                  |

- (1) Report agronomic farm crops on Form NR-8  
(2) C = Collections and R = Receipts # = Pounds  
(3) Use "S" to denote surplus a. = Acres

Remarks: Purpose of Goose-pen planting was to provide  
cover on bare soil.

Total acreage planted:

Marsh and aquatic

Hedgerows, cover patches 19

Food strips, food patches 28

Forest plantings

3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ottawa-Cedar Point-West Sister Island County Ottawa State Ohio

| Cultivated<br>Crops<br>Grown | Permittee's<br>Share Harvested |          | Government's Share or Return |           |       |           | Total<br>Acreage<br>Planted | Green Manure,<br>Cover and Water-<br>fowl Browsing Crops<br>Type and Kind | Total<br>Acreage |
|------------------------------|--------------------------------|----------|------------------------------|-----------|-------|-----------|-----------------------------|---|------------------|
|                              | Acres                          | Bu./Tons | Acres                        | Bu./ Tons | Acres | Bu. /Tons |                             |   |                  |
| Corn                         |                                |          |                              |           | 63    | 2,142     | 63                          | Wheat (cover and<br>brouse)   | 174              |
| Sorghum                      |                                |          |                              |           | 84    | 2,520     | 84                          |   |                  |
| Buckwheat                    |                                |          |                              |           | 158   | 2,844     | 158                         | Wheat (green manure<br>and brouse)  | 257              |
| Wheat                        | 91                             | 1,870    |                              |           |       |           | 91                          |   |                  |
| Soybean                      | 451                            | 11,970   |                              |           |       |           | 451                         |   |                  |
| Oats                         | 10                             | 300      |                              |           |       |           | 10                          |   |                  |
|                              |                                |          |                              |           |       |           |                             | Fallow Ag. Land.  |                  |

No. of Permittees: Agricultural Operations 8 Haying Operations 0 Grazing Operations 0

| Hay - Improved<br>(Specify Kind) | Tons<br>Harvested | Acres | Cash<br>Revenue | Grazing                                    | Number<br>Animals | AUM'S | Cash<br>Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
|                                  |                   |       |                 | 1. Cattle                                  |                   |       |                 |         |
|                                  |                   |       |                 | 2. Other                                   |                   |       |                 |         |
|                                  |                   |       |                 | 1. Total Refuge Acreage Under Cultivation  |                   |       |                 | 1,006   |
| Hay - Wild                       |                   |       |                 | 2. Acreage Cultivated as Service Operation |                   |       |                 |         |

DIRECTIONS FOR PREPARING FORM NR--8'  
CULTIVATED CROPS - HAYING - GRAZING

Report Form NR-8 should be prepared on a calendar-year basis for all crops which were planted during the calendar year and for haying and grazing operations carried on during the same period.

Separate reports shall be furnished for Refuge lands in each county when a refuge is located in more than one county or State.

Cultivated Crops Grown - List all crops planted, grown and harvested on the refuge during the reporting period regardless of purpose. Crops in kind which have been planted by more than one permittee or this Service shall be combined for reporting purposes.

Permittee's Share - Only the number of acres utilized by the permittee for his own benefit should be shown under the Acres column, and only the number of bushels of farm crops harvested by the permittee for himself should be shown under the Bushels Harvested column. Report all crops harvested in bushels or fractions thereof except such crops as silage, watermelons, cotton, tobacco, and hay, which should be reported in tons or fractions thereof.

Government's Share or Return - Harvested Show the acreage and number of bushels harvested for the Government of crops produced by permittees or refuge personnel. Unharvested Show the exact acreage and the estimated number of bushels of grain available for wildlife. If grazing is made available to waterfowl through the planting of grain, cover, green manure, grazing or hay crops, estimate the tonnage of green food produced or utilized and report under Bushels Unharvested column.

Total Acreage Planted - Report all acreage planted, including crop failures.

Green Manure, Cover and Waterfowl Grazing Crops Specify the acreage kind and purpose of the crop. These crops and the acreage may be duplicated under cultivated crops if planted during the year, or a duplication may occur under hay if the crop results from a perennial planting.

Hay - Improved - List separately the kinds of improved hay grown. Annual plantings should also be reported under Cultivated Crops, and perennial hay should be listed in the same manner at time of planting

Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

3-1758  
Form NR-8  
(Rev. Jan. 1956)

Fish and Wildlife Service Branch of Wildlife Refuges

CULTIVATED CROPS - HAYING - GRAZING

Refuge Ottawa-Cedar Point-West Sister Island County Lucas State Ohio

| Cultivated<br>Crops<br>Grown | Permittee's<br>Share Harvested |          | Government's Share or Return |           |       |           | Total<br>Acreage<br>Planted | Green Manure,<br>Cover and Water-<br>fowl Browsing Crops<br>Type and Kind                       | Total<br>Acreage |
|------------------------------|--------------------------------|----------|------------------------------|-----------|-------|-----------|-----------------------------|---|------------------|
|                              | Acres                          | Bu./Tons | Acres                        | Bu./ Tons | Acres | Bu. /Tons |                             |   |                  |
| Corn                         |                                |          |                              |           | 67    | 2,311     | 67                          | Wheat (cover and<br>brouse)   | 205              |
| Sorghum                      |                                |          |                              |           | 69    | 1,125     | 69                          | Wheat (green mamure<br>and brouse)  | 235              |
| Buckwheat                    |                                |          |                              |           | 151   | 1,827     | 151                         | Mixture of 30% Ky.<br>31 Fescue, 30%<br>Perennial Rye, 20%<br>Alsike Clover<br>(nesting strips) | 18               |
| Wheat                        | 114                            | 2,840    |                              |           |       |           | 235                         | Mixture of 30% Ky.<br>31 Fescue and 50%<br>Perennial Rye<br>(dike erosion control)              | 5                |
| Oats                         | 37                             | 4,000    |                              |           |       |           | 37                          |   |                  |
| Soybean                      | 388                            | 11,460   |                              |           |       |           | 388                         |   |                  |
|                              |                                |          |                              |           |       |           |                             | Fallow Ag. Land.  |                  |

No. of Permittees: Agricultural Operations 3 Haying Operations 0 Grazing Operations 0

| Hay - Improved<br>(Specify Kind) | Tons<br>Harvested | Acres | Cash<br>Revenue | Grazing                                    | Number<br>Animals | AUM'S | Cash<br>Revenue | ACREAGE |
|----------------------------------|-------------------|-------|-----------------|--|-------------------|-------|-----------------|---------|
|                                  |                   |       |                 | 1. Cattle                                  |                   |       |                 |         |
|                                  |                   |       |                 | 2. Other                                   |                   |       |                 |         |
|                                  |                   |       |                 | 1. Total Refuge Acreage Under Cultivation  |                   |       |                 | 860     |
| Hay - Wild                       |                   |       |                 | 2. Acreage Cultivated as Service Operation |                   |       |                 |         |

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CULTIVATED CROPS - HAYING - GRAZING

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Total Refuge Acreage Under Cultivation Report total land area devoted to agricultural purposes during the year.

# REFUGE GRAIN REPORT

Refuge Ottawa-Cedar Point-West Sister Island

Months of January through December, 19670

| (1)<br>VARIETY* | (2)<br>ON HAND<br>BEGINNING<br>OF PERIOD<br>Bushels | (3)<br>RECEIVED<br>DURING<br>PERIOD<br>Bushels | (4)<br>TOTAL<br>Bushels | (5)<br>GRAIN DISPOSED OF |        |                |                  | (6)<br>ON HAND<br>END OF<br>PERIOD<br>Bushels | (7)<br>PROPOSED OR SUITABLE USE* |                 |         |
|-----------------|---|--|-------------------------|--------------------------|--------|----------------|------------------|---|----------------------------------|-----------------|---------|
|                 |   |  |                         | Transferred              | Seeded | Fed<br>Bushels | Total<br>Bushels |   | Seed<br>Bushels                  | Feed<br>Bushels | Surplus |
| Buckwheat       | 11  | 0  | 11                      |                          |        | 1              | 1                | 10  | 10                               |                 |         |
| Shelled corn    | 170   | 540  | 710                     |                          |        | 560            | 560              | 150   |                                  | 150             |         |
| Grain Sorghum   | 3   | 0  | 3                       |                          |        |                |                  | 3   | (outdated - to be destroyed)     |                 |         |
| Japanese millet | 4   | 0  | 4                       |                          |        |                |                  | 4   | 4                                |                 |         |
| Proso millet    | 5   | 0  | 5                       |                          |        |                |                  | 5   |                                  | 5               |         |
| Rye             | 139   | 0  | 139                     |                          |        | 69             | 69               | 70  |                                  | 70              |         |
| Corn            | 14  | 0  | 14                      |                          |        |                |                  | 14  | (outdated - to be destroyed)     |                 |         |

(8) Indicate shipping or collection points Shelled corn was picked up from Shiawassee Refuge and used in banding program.

(9) Grain is stored at Ottawa Refuge/

(10) Remarks \_\_\_\_\_

\*See instructions on back.

## REFUGE GRAIN REPORT

This report should cover all grain on hand, received, or disposed of, during the period covered by this narrative report.

Report all grain in bushels. For the purpose of this report the following approximate weights of grain shall be considered equivalent to a bushel: Corn (shelled)—55 lb., corn (ear)—70 lb., wheat—60 lb., barley—50 lb., rye—55 lb., oats—30 lb., soy beans—60 lb., millet—50 lb., cowpeas—60 lb., and mixed—50 lb. In computing volume of granaries, multiply the cubic contents (cu. ft.) by 0.8 bushels.

- (1) List each type of grain separately and specifically, as flint corn, yellow dent corn, square deal hybrid corn, garnet wheat, red May wheat, durum wheat, spring wheat, proso millet, combine milo, new era cowpeas, mikado soy beans, etc. Mere listing as corn, wheat, and soybeans will not suffice, as specific details are necessary in considering transfer of seed supplies to other refuges. Include only domestic grains; aquatic and other seeds will be listed on NR-9.
- (3) Report all grain received during period from all sources, such as transfer, share cropping, or harvest from food patches.
- (4) A total of columns 2 and 3.
- (6) Column 4 less column 5.
- (7) This is a proposed break-down by varieties of grain listed in column 6. Indicate if grain is suitable for seeding new crops.
- (8) Nearest railroad station for shipping and receiving.
- (9) Where stored on refuge: "Headquarters granary," etc.
- (10) Indicate here the source of grain shipped in, destination of grain transferred, data on condition of grain, unusual uses proposed.

3-1761

Form NR-11

(2/46)

## TIMBER REMOVAL

Refuge Ottawa - Cedar Point - West Sister Island Year ~~1969~~ 1970

| Permittee | Permit No. | Unit or Location | Acreage                  | No. of Units Expressed in B. F., ties, etc. | Rate of Charge | Total Income | Reservations and/or Diameter Limits | Species Cut |
|-----------|------------|------------------|--------------------------|---|----------------|--------------|-------------------------------------|-------------|
|           |            |                  | <u>NOTHING TO REPORT</u> |   |                |              |                                     |             |

Total acreage cut over.....

Total income.....

No. of units removed B. F. ....

Method of slash disposal.....

Cords.....

Ties.....

Bureau of Sport Fisheries and Wildlife

## Refuge

Ottawa - Cedar Point -  
West Sister Island

|                 |  |
|-----------------|--|
| Proposal Number |  |
|-----------------|--|

| Reporting Year |
|----------------|
|----------------|

1970

INSTRUCTIONS: Wildlife Refuges Manual, secs. 3252d, 3394b and 3395.

| Date(s) of Application | List of Target Pest(s) | Location of Area Treated | Total Acres Treated | Chemical(s) Used     | Total Amount of Chemical Applied | Application Rate | Carrier and Rate | Method of Application |
|------------------------|------------------------|--------------------------|---------------------|----------------------|----------------------------------|------------------|------------------|-----------------------|
| (1)                    | (2)                    | (3)                      | (4)                 | (5)                  | (6)                              | (7)              | (8)              | (9)                   |
|                        |                        | N O T H I N G<br>=====   | T O<br>---          | R E P O R T<br>===== |                                  |                  |                  |                       |

10. Summary of results (continue on reverse side, if necessary)